4139

STR-333S

E Model

FM-AM PROGRAM RECEIVER

SPECIFICATIONS

GENERAL

Power Requirements:	120, 220 or 240 V ac adjustable, 50/60 Hz
Power Consumption:	180 W
AC Outlets:	Two unswitched, total 200 W
Dimensions:	Approx. 430 (w) x 135 (h) x 300 (d) mm 17 (w) x 5 1/4 (h) x 11 7/8 (d) inches including projecting parts and controls
Weight:	Approx. 6.9 kg, 15 lb 4 oz (net) Approx. 8.0 kg, 17 lb 11 oz (in shipping carton)

FM SECTION

Tuning Range:	87.5–108 MHz
Antenna Terminals:	300 Ω balanced 75 Ω unbalanced
Intermediate Frequency:	10.7 MHz
Sensitivity at 50 dB Quieting:	3.5 μV, 16.1 dBf (mono) 45 μV, 38.3 dBf (stereo)
Usable Sensitivity:	IHF 1.9 μV, 10.8 dBf
S/N Ratio:	75 dB (mono) 70 dB (stereo)
Harmonic Distortion:	0.15% (mono) 0.3% (stereo) At 1 kHz
IM Distortion:	0.15% (mono) 0.3% (stereo)
Separation:	45 dB at 1 kHz
Frequency Response:	30 Hz–15 kHz $^{+0.5}_{-2}$ dB
Alternate Channel Selectivity:	60 dB (400 kHz)
Capture Ratio:	1.0 dB
AM Suppression Ratio:	54 dB
Image Response Ratio:	45 dB
Spurious Response Ratio:	75 dB
Muting Threshold:	Approx. 5 μV

– Continued on page 2 –

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SONY®

SERVICE MANUAL

4139

SW/MW SECTION

	SW1	SW2	MW
Tuning Range	2.3–6.2 MHz	7–17.9 MHz	522–1,602 kHz
Antenna	External antenna terminal		Built-in ferrite rod antenna, External antenna terminal
Intermediate Frequency	450 kHz		
Usable Sensitivity	30μV, external antenna (4 MHz)	30μV, external antenna (12 MHz)	250μV/m, built-in antenna (1,000 kHz) 100μV, external antenna (1,000 kHz)
S/N Ratio	52 dB (5 mV)		52 dB (50 mV/m)
Harmonic Distortion	0.3% (5 mV, 400 Hz)		0.3% (50 mV/m, 400 Hz)
Selectivity	50 dB (9 kHz)		

AMPLIFIER SECTION

Continuous RMS Power Output: Less than 0.1% THD, both channels driven simultaneously
At 20 Hz–20 kHz
25W+25W (8Ω)
25W+25W (4Ω)
At 1kHz
28W+28W (8Ω)
28W+28W (4Ω)

Dynamic Power Output: (IHF constant power supply method) 90W (8Ω)
90W (4Ω)

Power Bandwidth: 10 Hz–40 kHz, IHF

Damping Factor: 20 at 1 kHz, 8Ω

Harmonic Distortion: Less than 0.1% at rated output
Less than 0.1% at 1W output

Intermodulation (IM) Distortion: (60 Hz:7 kHz = 4:1) Less than 0.1% at rated output
Less than 0.1% at 1W output

Residual Noise: Less than 0.08μW at 8Ω

Inputs:

	Sensitivity	Impedance	S/N	Weighting network
PHONO	2.5 mV (-50 dB)	50 kΩ	70 dB	A
TAPE	150 mV (-14.5 dB)	100 kΩ	90 dB	A

Measured with rated output power into 8Ω loads (both channels driven simultaneously) at 1 kHz.

Outputs: (with rated input)

REC OUT	Voltage 150 mV (-14.5 dB)	Impedance 10 kΩ
HEADPHONES	Accepts all low or high impedance headphones.	
SPEAKER	4–16 Ω speakers are suitable.	

Frequency Response: PHONO
RIAA equalization curve ± 1 dB
TAPE
10 Hz–50 kHz $^{+1}_{-3}$ dB

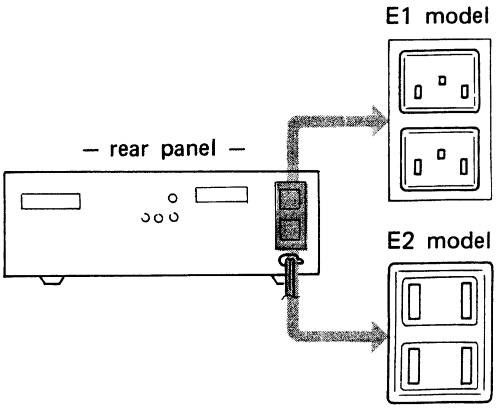
Tone Controls: BASS ±8 dB at 100 Hz
TREBLE ±8 dB at 10 kHz

Loudness Control: (att. 30 dB) +6 dB at 100 Hz
+3 dB at 10 kHz

0 dB = 0.775 V

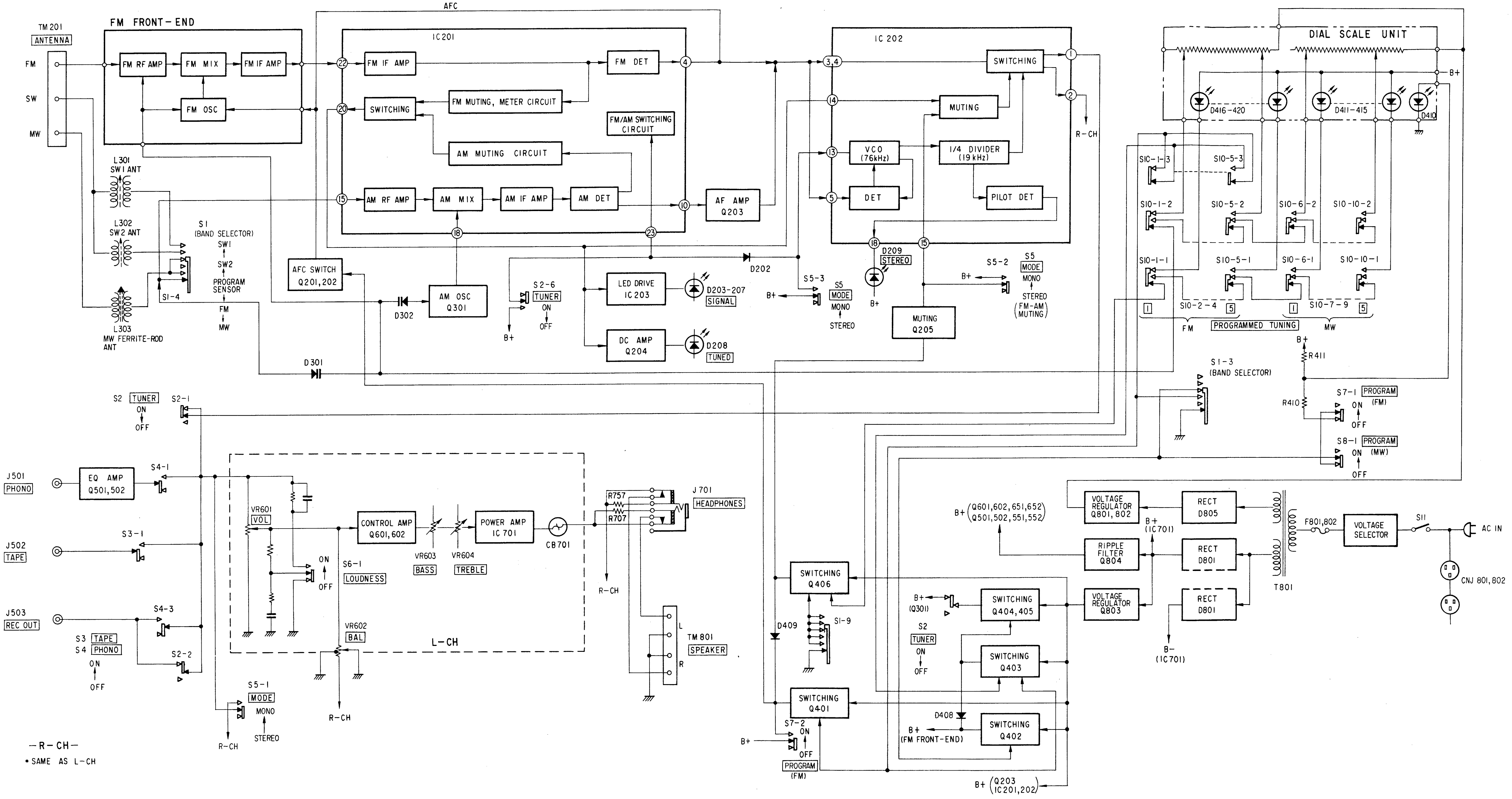
MODEL IDENTIFICATIONS

– AC Outlet –

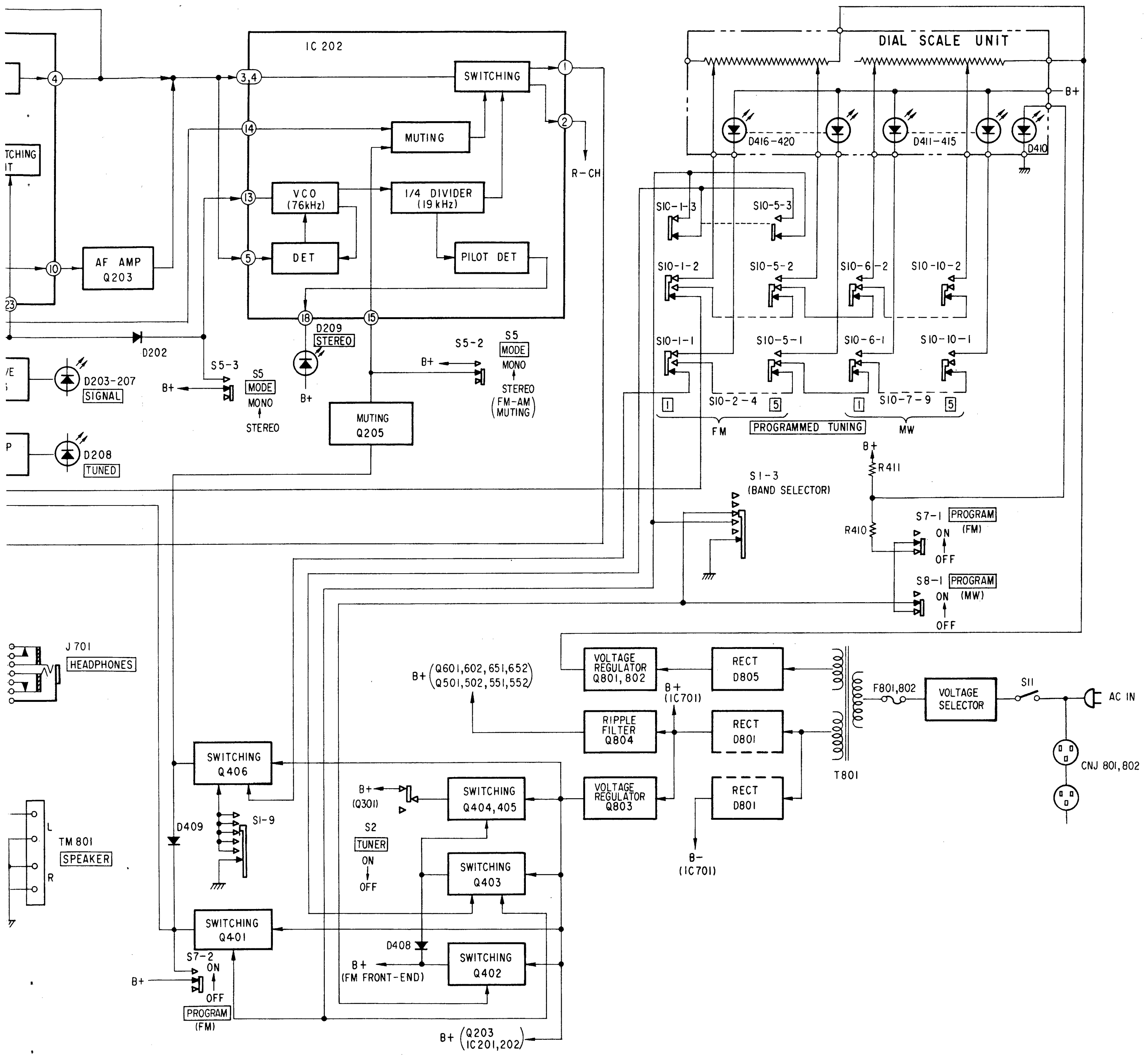


SECTION 1
OUTLINE

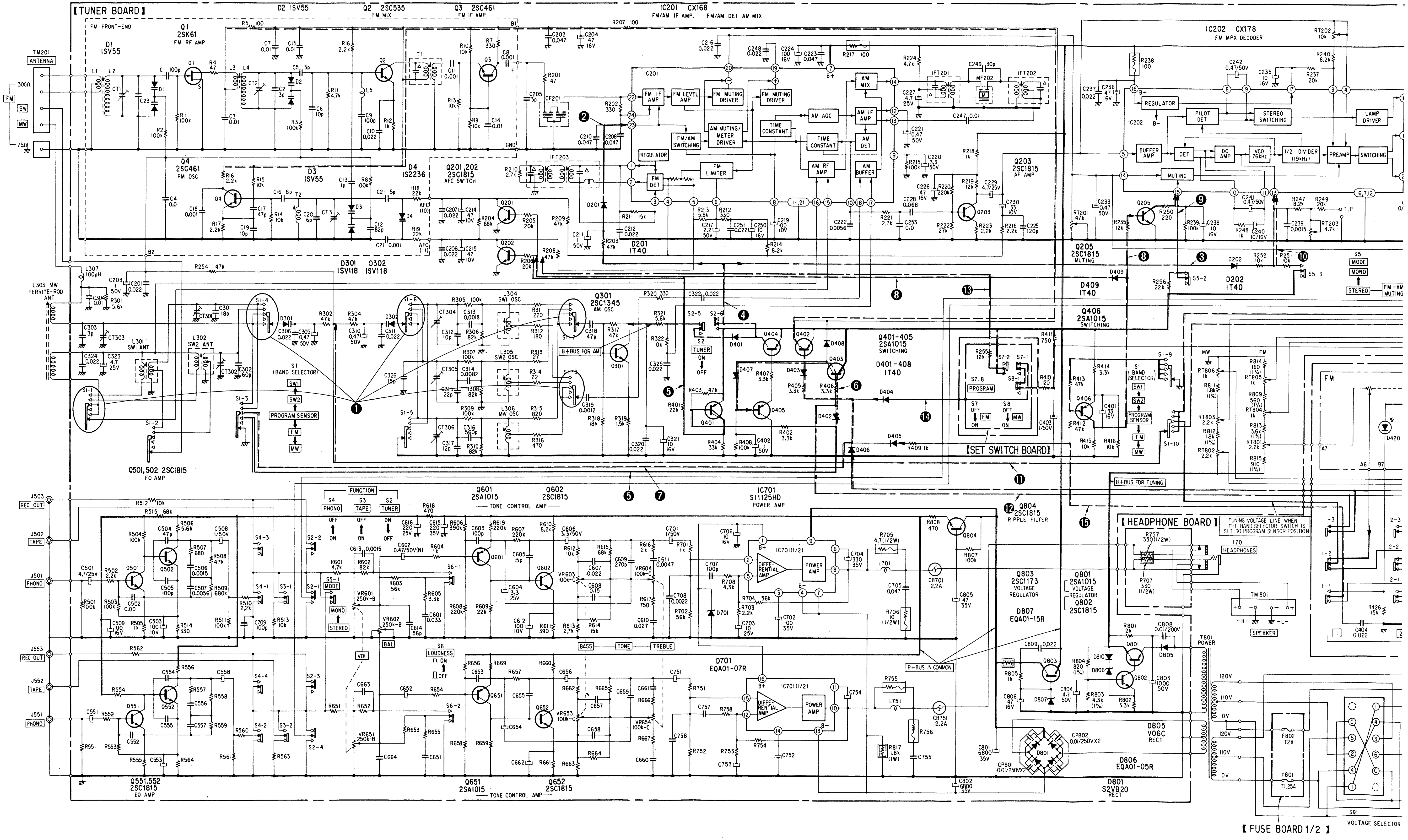
1-1. BLOCK DIAGRAM

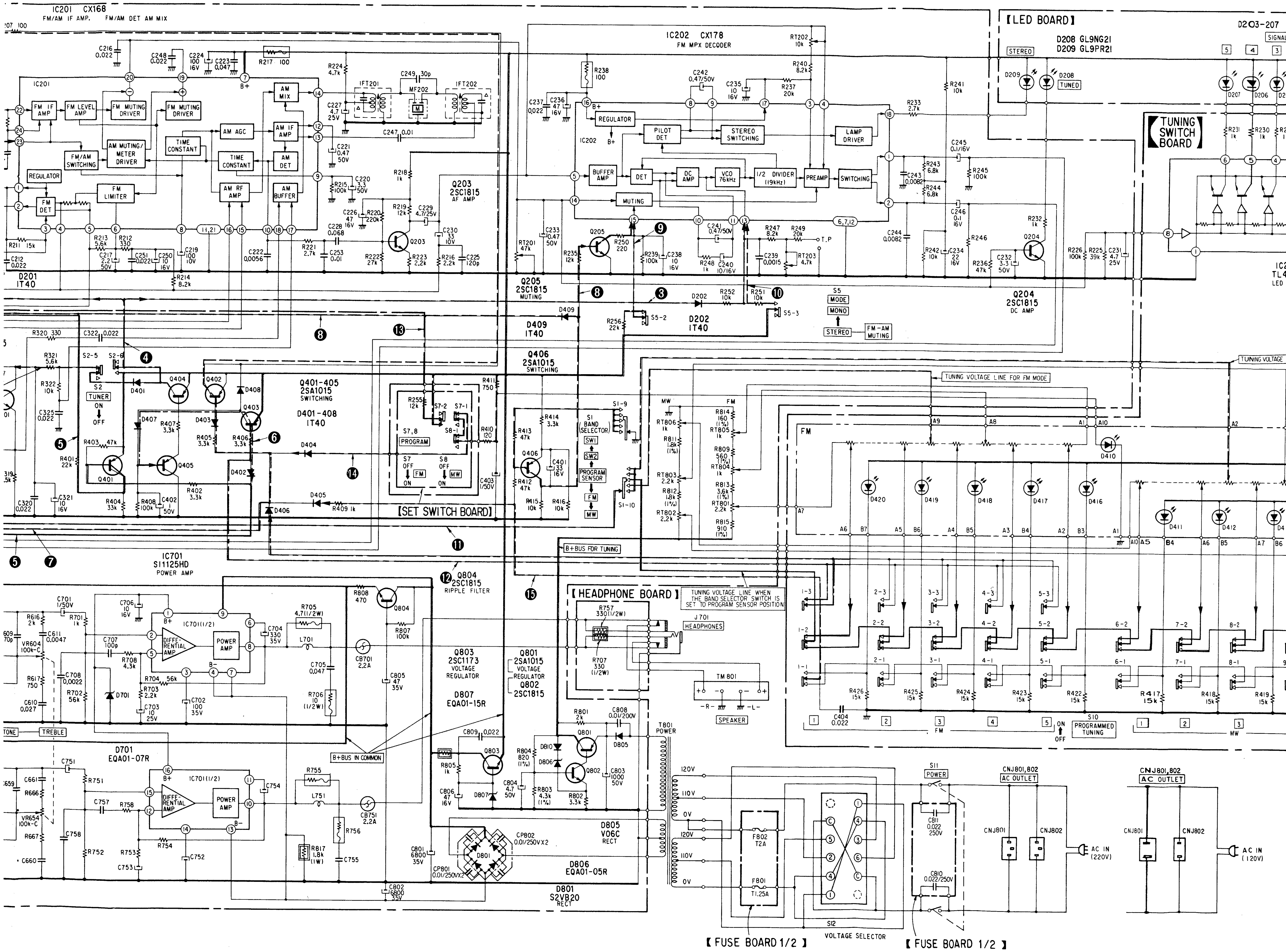

TM 201
ANTENNA
FM
SW
MW
FM FRONT-END
FM RF AMP
FM MIX
FM IF AMP
FM OSC
AFC
IC 201
FM IF AMP
FM DET
SWITCHING
FM MUTING, METER CIRCUIT
FM/AM SWITCHING CIRCUIT
AM MUTING CIRCUIT
AM RF AMP
AM MIX
AM IF AMP
AM DET
AF AMP Q203
IC 202
SWITCHING
MUTING
VCO (76kHz)
1/4 DIVIDER (19kHz)
DET
PILOT DET
R-CH
D209 STEREO
B+
L301 SW1 ANT
L302 SW2 ANT
L303 MW FERRITE-ROD ANT
S1 (BAND SELECTOR)
SW1
SW2
PROGRAM SENSOR
FM
MW
S1-4
AFC SWITCH Q201, 202
D302
AM OSC Q301
D202
S2-6 TUNER
ON
OFF
LED DRIVE IC 203
D203-207 SIGNAL
DC AMP Q204
D208 TUNED
S5-3
S5 MODE
MONO
STEREO
MUTING Q205
S5-2
S5 MODE
MONO
STEREO (FM-AM MUTING)
D301
DIAL SCALE UNIT
D416-420
D411-415
D410
S10-1-3
S10-5-3
S10-1-2
S10-5-2
S10-6-2
S10-10-2
S10-1-1
S10-5-1
S10-6-1
S10-10-1
S10-2-4
S10-7-9
1
5
FM
PROGRAMMED TUNING
MW
R411
S1-3 (BAND SELECTOR)
R410
S7-1 PROGRAM (FM)
S8-1 PROGRAM (MW)
S2 TUNER
S2-1
J501 PHONO
EQ AMP Q501, 502
S4-1
J502 TAPE
S3-1
J503 REC OUT
S4-3
S3 TAPE
S4 PHONO
S2-2
VR601 VOL
CONTROL AMP Q601, 602
VR603 BASS
VR604 TREBLE
POWER AMP IC 701
CB701
S6-1 LOUDNESS
VR602 BAL
L-CH
S5-1 MODE
MONO
STEREO
R757
R707
J701 HEADPHONES
TM 801 SPEAKER
L
R
SWITCHING Q406
D409
S1-9
SWITCHING Q401
S7-2
PROGRAM (FM)
B+ (Q301)
S2 TUNER
SWITCHING Q404, 405
SWITCHING Q403
D408
B+ (FM FRONT-END)
SWITCHING Q402
B+ (Q203, IC201, 202)
B+ (Q601, 602, 651, 652, Q501, 502, 551, 552)
VOLTAGE REGULATOR Q801, 802
RECT D805
B+ (IC701)
RIPPLE FILTER Q804
RECT D801
VOLTAGE REGULATOR Q803
RECT D801
B- (IC701)
T801
F801, 802
VOLTAGE SELECTOR
S11
AC IN
CNJ 801, 802

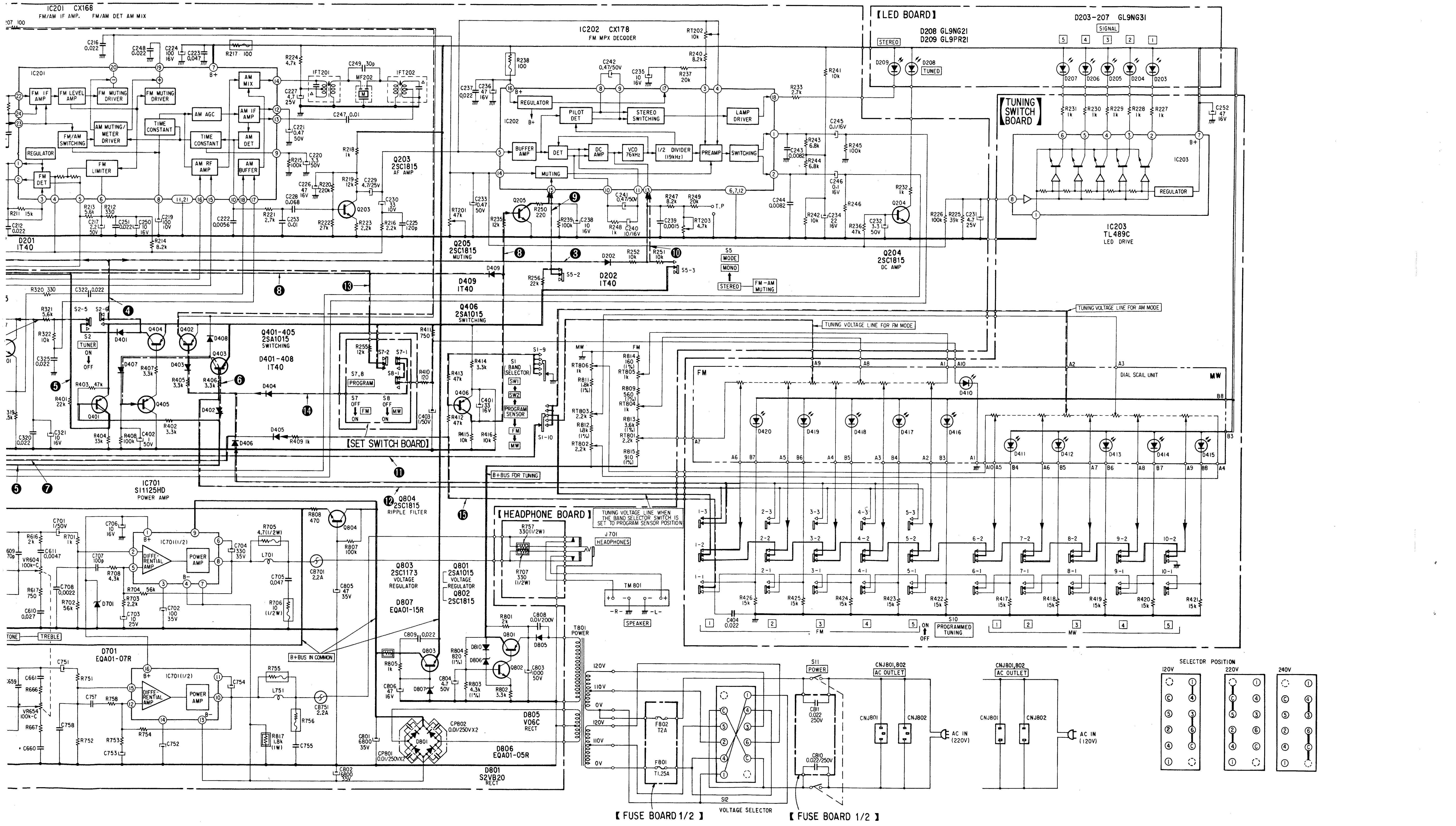
—R-CH—
• SAME AS L-CH


IC 202
SWITCHING
MUTING
VCO (76kHz)
1/4 DIVIDER (19kHz)
DET
PILOT DET
R-CH
AF AMP Q203
D202
D209 STEREO
D203-207 SIGNAL
D208 TUNED
S5-3
S5 MODE
MONO
STEREO
S5-2
S5 MODE
MONO
STEREO (FM-AM MUTING)
MUTING Q205
B+
DIAL SCALE UNIT
D416-420
D411-415
D410
S10-1-3
S10-5-3
S10-1-2
S10-5-2
S10-6-2
S10-10-2
S10-1-1
S10-5-1
S10-6-1
S10-10-1
S10-2-4
S10-7-9
1
5
FM
PROGRAMMED TUNING
MW
R411
R410
S1-3 (BAND SELECTOR)
S7-1 PROGRAM (FM)
ON
OFF
S8-1 PROGRAM (MW)
J701 HEADPHONES
TM 801 SPEAKER
L
R
SWITCHING Q406
D409
S1-9
SWITCHING Q401
S7-2
PROGRAM (FM)
B+ (Q601,602,651,652 / Q501,502,551,552)
VOLTAGE REGULATOR Q801,802
RECT D805
B+ (IC701)
RIPPLE FILTER Q804
RECT D801
VOLTAGE REGULATOR Q803
RECT D801
B- (IC701)
T801
F801,802
VOLTAGE SELECTOR
S11
AC IN
CNJ 801,802
B+ (Q301)
SWITCHING Q404,405
S2 TUNER
SWITCHING Q403
D408
SWITCHING Q402
B+ (FM FRONT-END)
B+ (Q203 / IC201,202)
4
3,4
1
2
14
13
10
5
23
18
15

1-2. CIRCUIT DESCRIPTION


【TUNER BOARD】
FM FRONT-END
TM201 ANTENNA
300Ω
75Ω
FM
SW
MW
D1 1SV55
Q1 2SK61 FM RF AMP
D2 1SV55
Q2 2SC535 FM MIX
Q3 2SC461 FM IF AMP
Q4 2SC461 FM OSC
D3 1SV55
D4 1S2236
Q201,202 2SC1815 AFC SWITCH
IC201 CX168 FM/AM IF AMP. FM/AM DET AM MIX
FM IF AMP
FM LEVEL AMP
FM MUTING DRIVER
FM/AM SWITCHING
AM MUTING/METER DRIVER
REGULATOR
FM DET
FM LIMITER
AM AGC
TIME CONSTANT
AM RF AMP
AM BUFFER
AM MIX
AM IF AMP
AM DET
IFT201
MF202
IFT202
IFT203
CF201
Q203 2SC1815 AF AMP
D201 1T40
IC202 CX178 FM MPX DECODER
REGULATOR
PILOT DET
STEREO SWITCHING
LAMP DRIVER
BUFFER AMP
DET
DC AMP
VCO 76kHz
1/2 DIVIDER (19kHz)
PREAMP
SWITCHING
MUTING
Q205 2SC1815 MUTING
D202 1T40
D409 1T40
S5 MODE
MONO
STEREO
FM-AM MUTING
L303 MW FERRITE-ROD ANT
L301 SW1 ANT
L302 SW2 ANT
D301 1SV118
D302 1SV118
Q301 2SC1345 AM OSC
L304 SW1 OSC
L305 SW2 OSC
L306 MW OSC
B+BUS FOR AM
S1 (BAND SELECTOR)
SW1
SW2
PROGRAM SENSOR
FM
MW
Q501,502 2SC1815 EQ AMP
S2 TUNER ON OFF
Q401-405 2SA1015 SWITCHING
D401-408 1T40
Q406 2SA1015 SWITCHING
S7,8 PROGRAM
S7 OFF ON
S8 OFF ON
【SET SWITCH BOARD】
B+BUS FOR TUNING
TUNING VOLTAGE LINE WHEN THE BAND SELECTOR SWITCH IS SET TO PROGRAM SENSOR POSITION
J503 REC OUT
J502 TAPE
J501 PHONO
J553 REC OUT
J552 TAPE
J551 PHONO
FUNCTION
S4 PHONO
S3 TAPE
S2 TUNER
S5-1 MODE
MONO
STEREO
VOL
BAL
S6 LOUDNESS ON OFF
Q601 2SA1015
Q602 2SC1815
TONE CONTROL AMP
BASS
TONE
TREBLE
IC701 STI1125HD POWER AMP
DIFFERENTIAL AMP
POWER AMP
D701 EQA01-07R
Q804 2SC1815 RIPPLE FILTER
B+BUS IN COMMON
Q803 2SC1173 VOLTAGE REGULATOR
Q801 2SA1015 VOLTAGE REGULATOR
Q802 2SC1815
D807 EQA01-15R
D805 V06C RECT
D806 EQA01-05R
D801 S2VB20 RECT
【HEADPHONE BOARD】
J701 HEADPHONES
TM801 SPEAKER
T801 POWER
120V
110V
0V
F802 T2A
F801 T1.25A
S12 VOLTAGE SELECTOR
【FUSE BOARD 1/2】
Q551,552 2SC1815 EQ AMP
Q651 2SA1015
Q652 2SC1815
D420


IC201 CX168
FM/AM IF AMP. FM/AM DET AM MIX
FM IF AMP
FM LEVEL AMP
FM MUTING DRIVER
AM AGC
AM MIX
AM IF AMP
AM DET
AM RF AMP
AM BUFFER
TIME CONSTANT
FM/AM SWITCHING
AM MUTING/METER DRIVER
REGULATOR
FM DET
FM LIMITER
IFT201
IFT202
MF202
Q203 2SC1815 AF AMP
D201 IT40
IC202 CX178
FM MPX DECODER
PILOT DET
STEREO SWITCHING
LAMP DRIVER
BUFFER AMP
DET
DC AMP
VCO 76kHz
1/2 DIVIDER (19kHz)
PREAMP
SWITCHING
MUTING
Q205 2SC1815 MUTING
Q204 2SC1815 DC AMP
D202 IT40
D409 IT40
S5 MODE
MONO
STEREO
FM-AM MUTING
【LED BOARD】
D208 GL9NG21
D209 GL9PR21
STEREO
TUNED
D203-207
SIGNAL
【TUNING SWITCH BOARD】
Q401-405 2SA1015 SWITCHING
D401-408 IT40
S2 TUNER
ON
OFF
S7,8 PROGRAM
S7 OFF ON
S8 OFF ON
FM
MW
【SET SWITCH BOARD】
Q406 2SA1015 SWITCHING
S1 BAND SELECTOR
SW1
SW2
PROGRAM SENSOR
TUNING VOLTAGE LINE FOR FM MODE
TUNING VOLTAGE
B+BUS FOR TUNING
IC701 SI1125HD POWER AMP
IC701(1/2)
DIFFERENTIAL AMP
POWER AMP
Q804 2SC1815 RIPPLE FILTER
Q803 2SC1173 VOLTAGE REGULATOR
Q801 2SA1015 VOLTAGE REGULATOR
Q802 2SC1815
D807 EQA01-15R
D701 EQA01-07R
B+BUS IN COMMON
TONE
TREBLE
【HEADPHONE BOARD】
TUNING VOLTAGE LINE WHEN THE BAND SELECTOR SWITCH IS SET TO PROGRAM SENSOR POSITION
J701 HEADPHONES
TM801
SPEAKER
T801 POWER
D805 V06C RECT
D806 EQA01-05R
D801 S2VB20 RECT
CP802 0.01/250V×2
CP801 0.01/250V×2
S11 POWER
S12 VOLTAGE SELECTOR
F802 T2A
F801 T1.25A
CNJ801,802 AC OUTLET
AC IN (220V)
AC IN (120V)
【FUSE BOARD 1/2】
S10 PROGRAMMED TUNING
ON OFF


IC201 CX168
FM/AM IF AMP. FM/AM DET AM MIX
FM IF AMP
FM LEVEL AMP
FM MUTING DRIVER
AM MIX
AM AGC
AM IF AMP
AM MUTING/ METER DRIVER
FM/AM SWITCHING
TIME CONSTANT
AM DET
REGULATOR
FM LIMITER
FM DET
AM RF AMP
AM BUFFER
IFT201
MF202
IFT202
Q203 2SC1815 AF AMP
D201 1T40
IC202 CX178
FM MPX DECODER
PILOT DET
STEREO SWITCHING
LAMP DRIVER
BUFFER AMP
DET
DC AMP
VCO 76kHz
1/2 DIVIDER (19kHz)
PREAMP
SWITCHING
MUTING
Q205 2SC1815 MUTING
Q204 2SC1815 DC AMP
D202 1T40
S5 MODE MONO STEREO FM-AM MUTING
[LED BOARD]
D203-207 GL9NG31
D208 GL9NG21
D209 GL9PR21
STEREO
TUNED
SIGNAL
[TUNING SWITCH BOARD]
IC203 TL489C LED DRIVE
REGULATOR
D409 1T40
Q406 2SA1015 SWITCHING
Q401-405 2SA1015 SWITCHING
D401-408 1T40
S2 TUNER ON OFF
[SET SWITCH BOARD]
S7 OFF ON FM
S8 OFF ON MW
PROGRAM
S1 BAND SELECTOR
SW1 SW2 PROGRAM SENSOR FM MW
TUNING VOLTAGE LINE FOR AM MODE
TUNING VOLTAGE LINE FOR FM MODE
DIAL SCAIL UNIT
FM
MW
B+BUS FOR TUNING
TUNING VOLTAGE LINE WHEN THE BAND SELECTOR SWITCH IS SET TO PROGRAM SENSOR POSITION
S10 PROGRAMMED TUNING
ON OFF
IC701 SI1125HD POWER AMP
IC701(1/2)
DIFFE-RENTIAL AMP
POWER AMP
TONE
TREBLE
D701 EQA01-07R
Q804 2SC1815 RIPPLE FILTER
Q803 2SC1173 VOLTAGE REGULATOR
D807 EQA01-15R
Q801 2SA1015 VOLTAGE REGULATOR
Q802 2SC1815
B+BUS IN COMMON
[HEADPHONE BOARD]
J701 HEADPHONES
TM801 SPEAKER
T801 POWER
D805 V06C RECT
D806 EQA01-05R
D801 S2VB20 RECT
120V 110V 0V
F802 T2A
F801 T1.25A
S12 VOLTAGE SELECTOR
S11 POWER
CNJ801,802 AC OUTLET
AC IN (220V)
AC IN (120V)
SELECTOR POSITION
120V 220V 240V
[FUSE BOARD 1/2]
[FUSE BOARD 1/2]

❶ Band Selector (S1): PROGRAM SENSOR position
A selection of MW or FM mode is done by connecting the B+ bus to the respective circuit.

❷ In SW1, SW2 or MW reception, the IC201 (CX168) function is switched to AM mode.

❸ In SW1, SW2 or MW reception, the VCO function is stopped.

❹ When the TUNER switch (S2–6) is turned off, B+ voltage is applied to this line.

❺ Band Selector: FM position
This line is grounded. Therefore, Q401, Q201 and Q202 turn on and AFC circuit does not operate.

❻ Band Selector: FM position
This line is grounded and Q403 turns on. Therefore, Q405 and Q404 turn off.

❼ Band Selector: PROGRAM SENSOR position
This line is grounded and Q402 turns on. Therefore, B+ voltage is applied to the FM front-end circuit even in MW reception, and the selection of MW or FM mode is done by applying B+ voltage to terminal ㉓ of IC201.

❽ When the Band Selector switch is changed, Q406 turns on momentarily by S1–9. Then, AFC circuit is released and the signal is muted within IC202.

❾ In mono mode, the muting function is stopped.

❿ In mono mode, the VCO function is stopped.

⓫ The tuning is done by applying the voltage to the varactor diode (D1–3, D301 and D302), since the capacitance of the diodes varies with the applied voltage which is controlled by the sliders of the dial scale unit.

⓬ Band Selector: PROGRAM SENSOR position
When one of the FM PROGRAMMED TUNING button (S10) is depressed, this line is grounded and Q403 turns on.

⓭ When the FM PROGRAM switch (S7) switches on, B+ voltage is applied to this line, Q201 and Q202 turn on, and AFC circuit is released by Q201 and Q202.

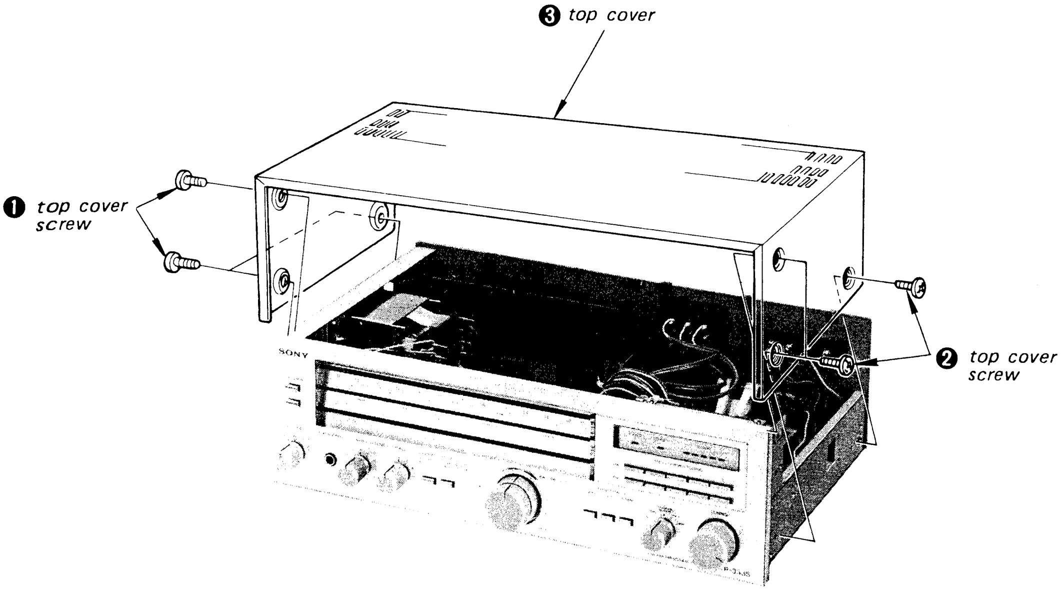
⓮ Band Selector: PROGRAM SENSOR position
This line is grounded. Therefore, the dial pointer is not brighter than manual tuning. But when the PROGRAM switch (S7 and S8) is depressed, the current flowing through D410 increases and the dial pointer brightens.

⓯ Band Selector: PROGRAM SENSOR position
This line is grounded via D405 and S1–3, but the voltage is applied to the base of Q406 by R409, and Q406 turns off. But when switching S10 over, a voltage is momentarily not applied and Q406 turns on.

SECTION 2
DISASSEMBLY

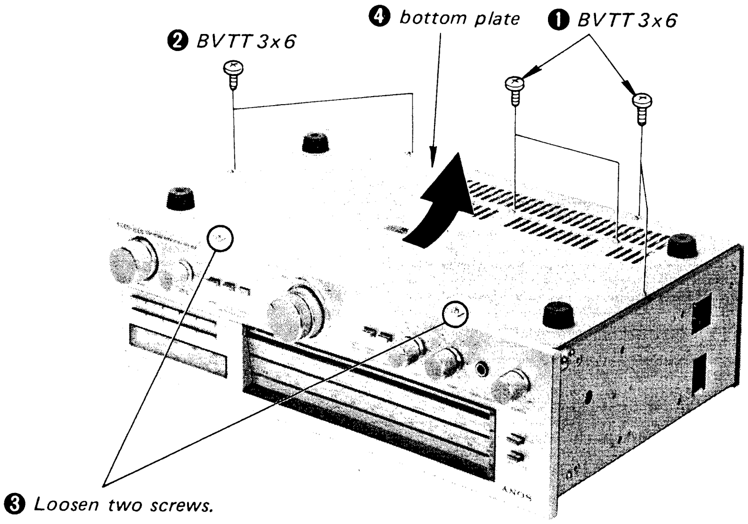
Note: Follow the disassembly procedure in the numerical order given.

TOP COVER REMOVAL

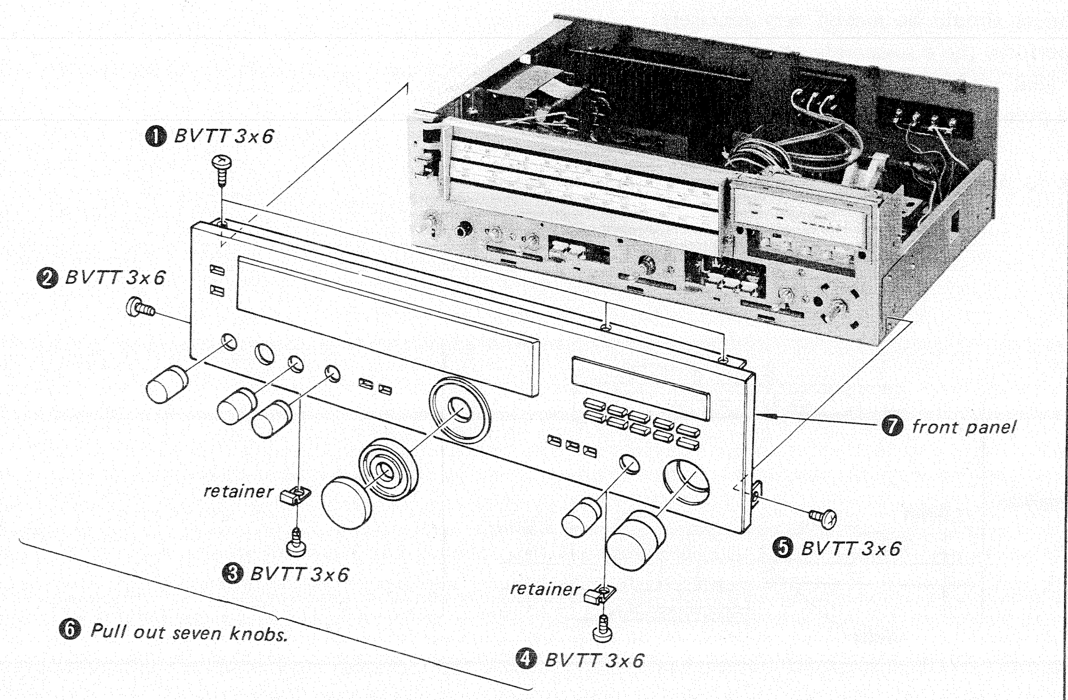

❸ top cover
❶ top cover screw
❷ top cover screw

DIAL CORD STRINGING
See page 17.

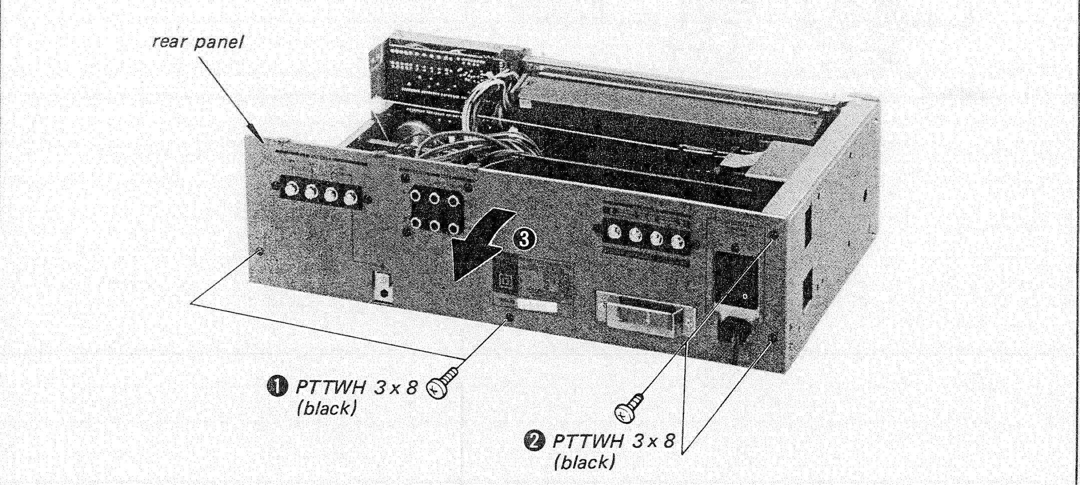
BOTTOM PLATE REMOVAL


❹ bottom plate
❶ BVTT 3x6
❷ BVTT 3x6
❸ Loosen two screws.

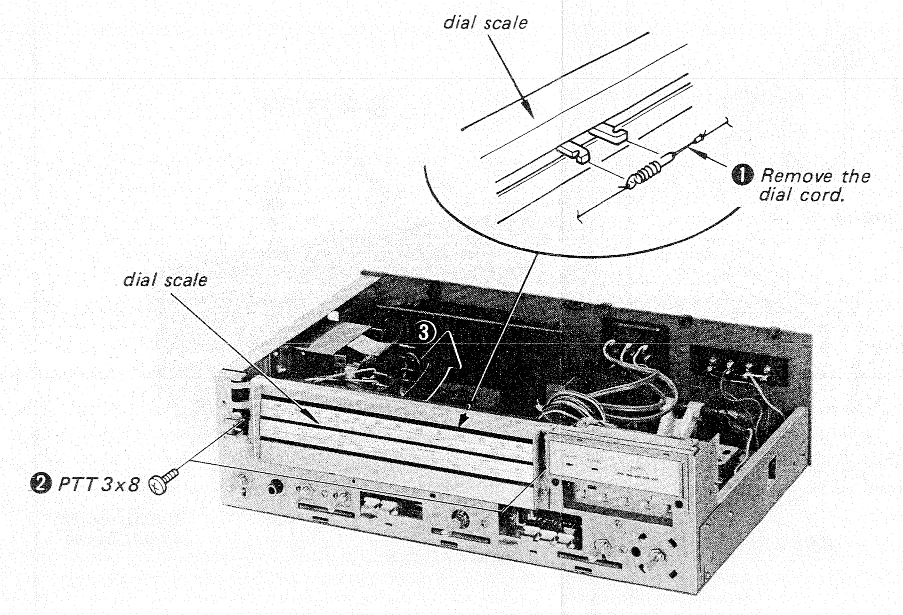
FRONT PANEL REMOVAL


① BVTT 3x6
② BVTT 3x6
⑦ front panel
retainer
③ BVTT 3x6
⑤ BVTT 3x6
retainer
⑥ Pull out seven knobs.
④ BVTT 3x6

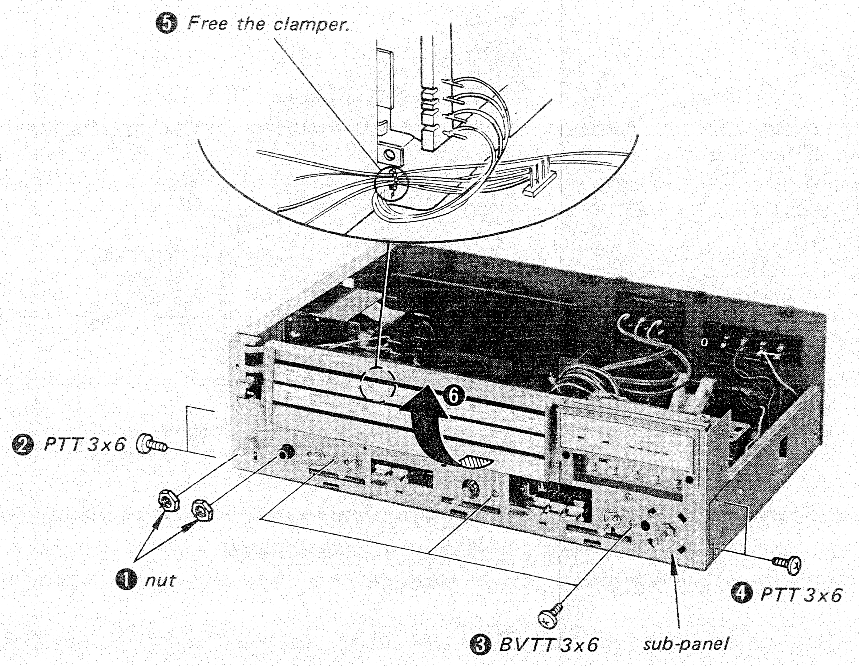
REAR PANEL REMOVAL


rear panel
③
① PTTWH 3 x 8 (black)
② PTTWH 3 x 8 (black)

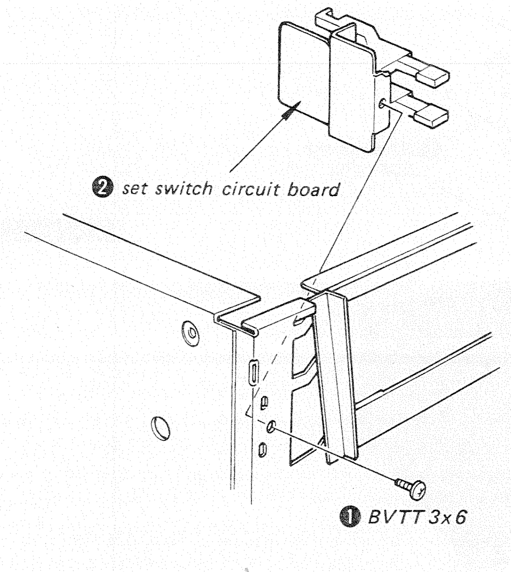
DIAL SCALE REMOVAL


dial scale
① Remove the dial cord.
dial scale
③
② PTT 3x8

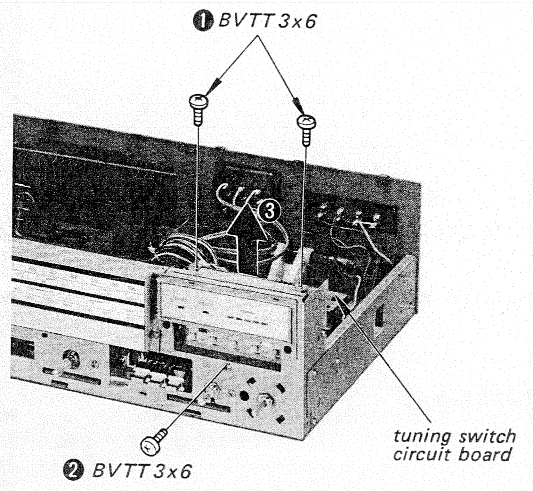
SUB-PANEL REMOVAL


⑤ Free the clamper.
⑥
② PTT 3x6
① nut
④ PTT 3x6
③ BVTT 3x6
sub-panel

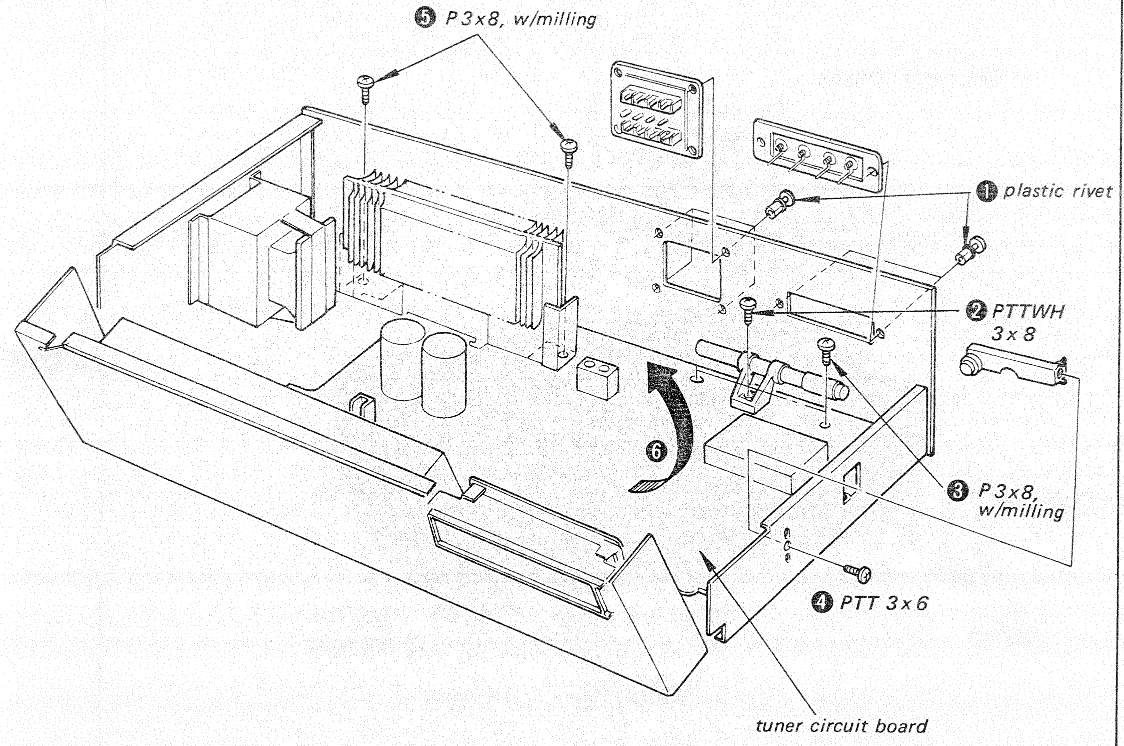
SET SWITCH CIRCUIT BOARD REMOVAL


② set switch circuit board
① BVTT 3x6

TUNING SWITCH CIRCUIT BOARD REMOVAL


① BVTT 3x6
③
② BVTT 3x6
tuning switch circuit board

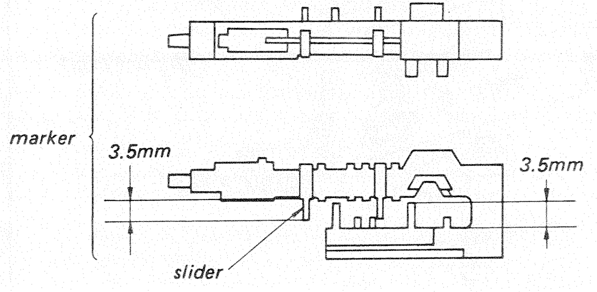
TUNER CIRCUIT BOARD REMOVAL

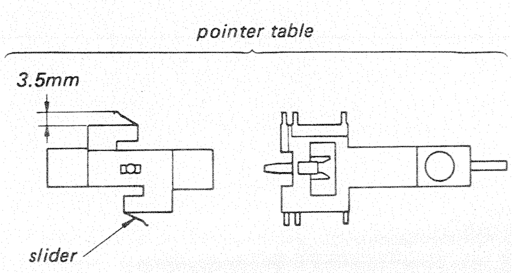

⑤ P 3x8, w/milling
① plastic rivet
② PTTWH 3x8
⑥
③ P 3x8, w/milling
④ PTT 3x6
tuner circuit board

DIAL SCALE UNIT

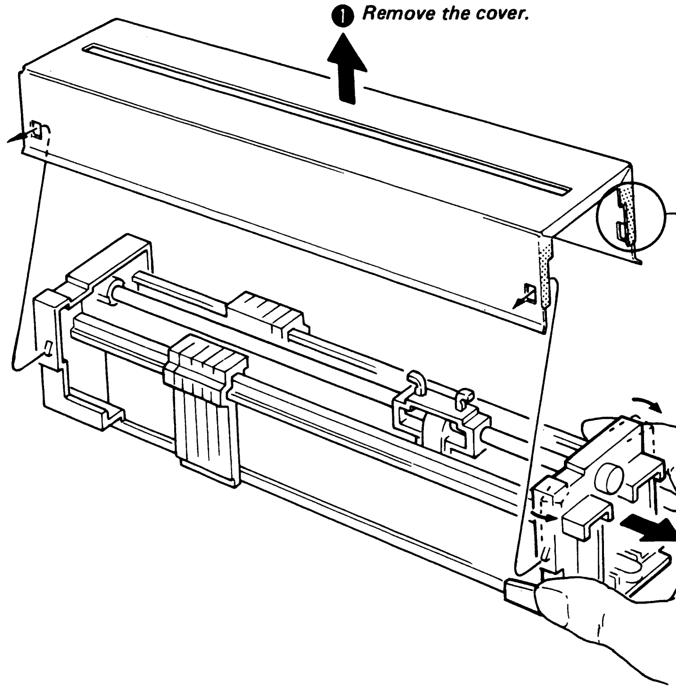
This unit is tuned by moving the sliders of the dial scale unit along the carbon-coated lines of the resistor plates. The sliders should be moved very precisely. So, carefully perform the disassembly and the installation of the dial scale unit as follows. Only the marker and the pointer table are replaceable.

Take care not to damage the sliders shown below.


marker
3.5mm
3.5mm
slider


pointer table
3.5mm
slider

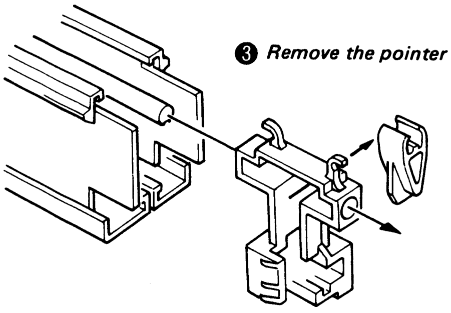
- **Dial Scale Unit Disassembly**



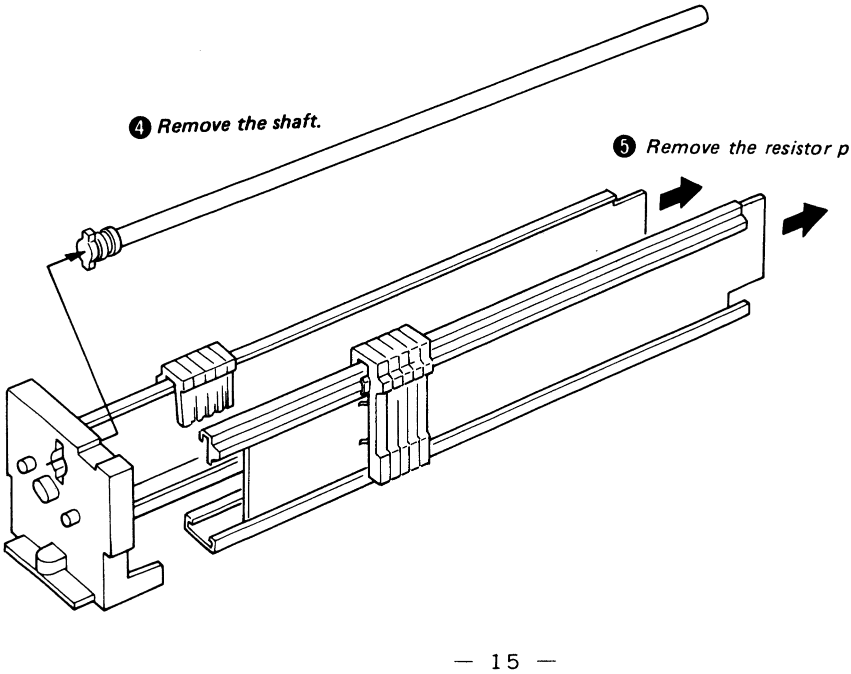
❶ *Remove the cover.*

Note:
When installing the cover, confirm the form of this part. Do not install it in the other way.

❷ *Remove the bearing (right side).*



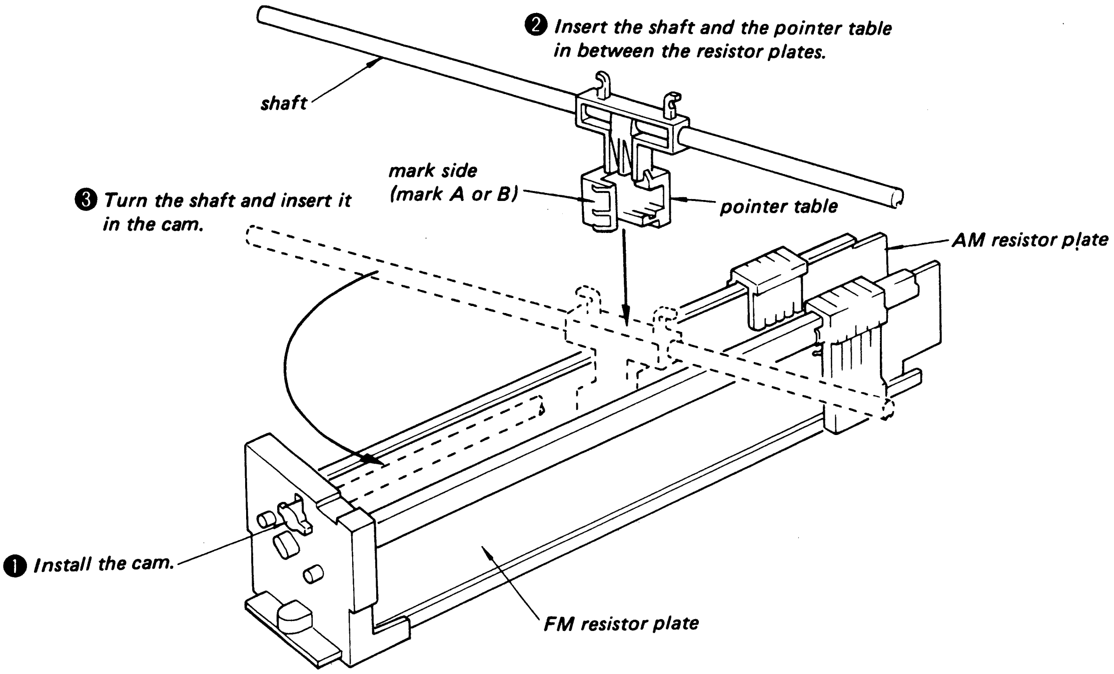
❸ *Remove the pointer table.*



❹ *Remove the shaft.*

❺ *Remove the resistor plates.*

• Dial Scale Unit Installation

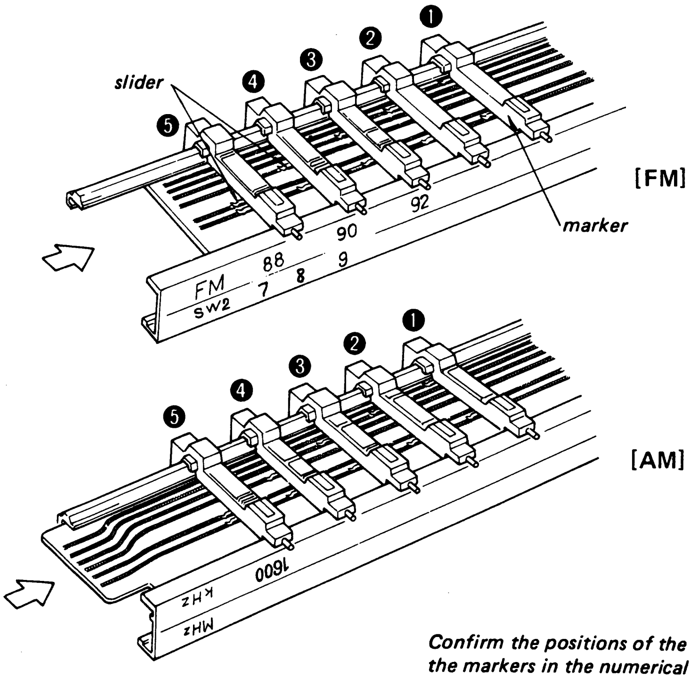

shaft
mark side
(mark A or B)
pointer table
AM resistor plate
FM resistor plate

② *Insert the shaft and the pointer table in between the resistor plates.*

③ *Turn the shaft and insert it in the cam.*

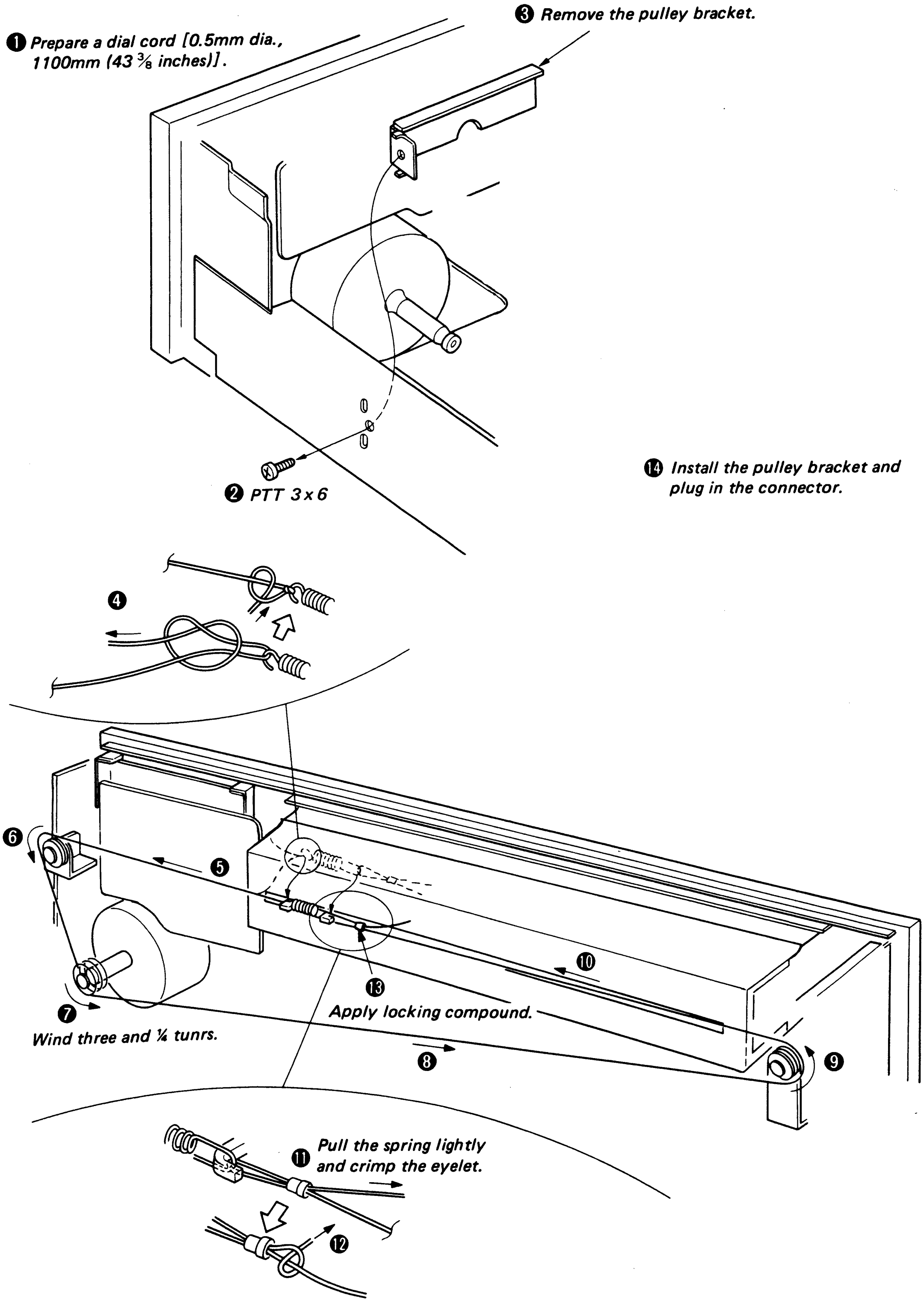
① *Install the cam.*

Note:
The installation is performed in this way not to damage the sliders of the pointer table.


①
②
③
④
⑤
slider
marker
[FM]
92
90
88
9
FM
7
8
SW2
①
②
③
④
⑤
[AM]
1600
kHz
MHz

Confirm the positions of the sliders and install the markers in the numerical order given.
If one of the markers is damaged, replace the five markers together to obtain the same brightness of them.

DIAL CORD STRINGING


❶ *Prepare a dial cord [0.5mm dia., 1100mm (43 ⅜ inches)].*

❷ *PTT 3x6*

❸ *Remove the pulley bracket.*

❹

❺

❻

❼ *Wind three and ¼ tunrs.*

❽

❾

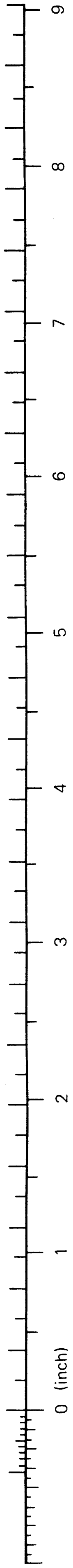
❿

⓫ *Pull the spring lightly and crimp the eyelet.*

⓬

⓭ *Apply locking compound.*

⓮ *Install the pulley bracket and plug in the connector.*



MEMO

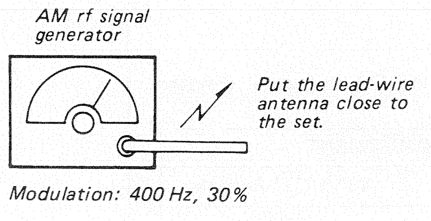
SECTION 3
ADJUSTMENTS

AM SECTION

● MW Section

Setting:

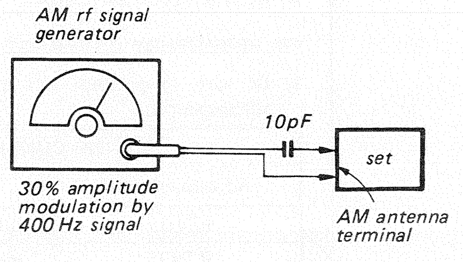
FUNCTION Switch: TUNER
Band Selector: MW


AM rf signal generator
Put the lead-wire antenna close to the set.
Modulation: 400 Hz, 30%

● SW Section

Setting:

FUNCTION Switch: TUNER
Band Selector: SW1 or SW2


AM rf signal generator
10pF
set
30% amplitude modulation by 400 Hz signal
AM antenna terminal

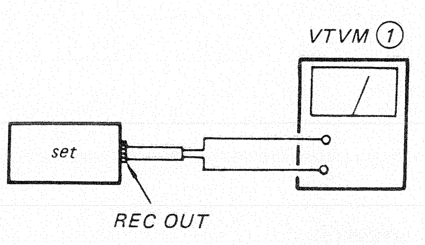
MW FREQUENCY COVERAGE ADJUSTMENT

	Dial Indication	VTVM ② Reading	Adjustment Part
Tuning Control Voltage Adjustment	maximum frequency	25 V	RT806
	minimum frequency	2 V	RT802
	Adjust for a specified reading on VTVM ②.		

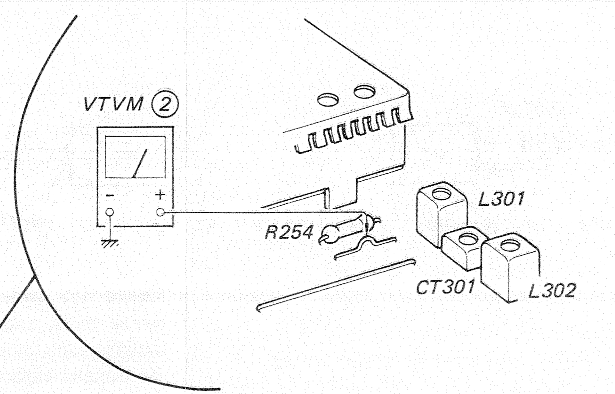
	Dial Indication	AM Rf Signal Generator Frequency	Adjustment Part
Local Oscillator Frequency Adjustment	minimum frequency	515 kHz	L306
	maximum frequency	1,660 kHz	CT306
	Adjust for a maximum reading on VTVM ①.		

	Dial Indication	AM Rf Signal Generator Frequency	Adjustment Part
Dial Pointer Setting	600 kHz	600 kHz	RT806
	1,000 kHz	1,000 kHz	RT803
	1,400 kHz	1,400 kHz	RT802
	Adjust for a maximum reading on VTVM ①.		

Note: Be sure to perform the SW1 and the SW2 frequency coverage adjustments after the tuning control voltage adjustment.


VTVM ①
set
REC OUT

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.


VTVM ②
- +
R254
L301
CT301
L302

AM IF ALIGNMENT

Adjust for a maximum reading on VTVM ①.

450 kHz	
IFT202	IFT201

MW TRACKING ADJUSTMENT

Adjust for a maximum reading on VTVM ①.

1,400 kHz	600 kHz
CT303	L303

SW1 TRACKING ADJUSTMENT

Adjust for a maximum reading on VTVM ①.

L301	3 MHz
CT301	6 MHz

SW2 TRACKING ADJUSTMENT

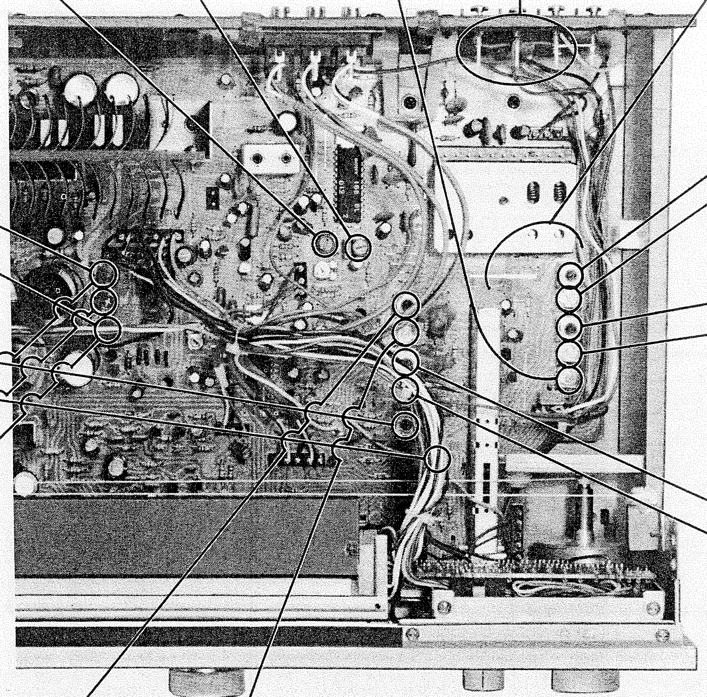
Adjust for a maximum reading on VTVM ①.

L302	8 MHz
CT302	15 MHz

SW2 FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on VTVM ①.

L305	6.8 MHz
CT305	18.4 MHz



L304	CT304
2.1 MHz	6.5 MHz

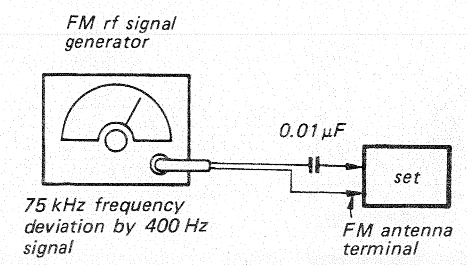
Adjust for a maximum reading on VTVM ①.

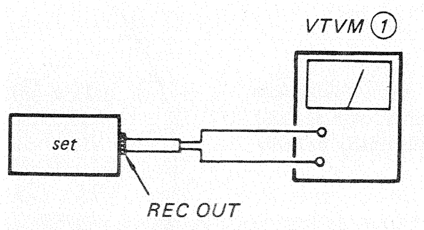
SW1 FREQUENCY COVERAGE ADJUSTMENT

FM SECTION

Setting:

FUNCTION Switch:	TUNER
Band Selector:	FM
MODE Switch:	MONO


FM rf signal generator
0.01 μF
set
75 kHz frequency deviation by 400 Hz signal
FM antenna terminal

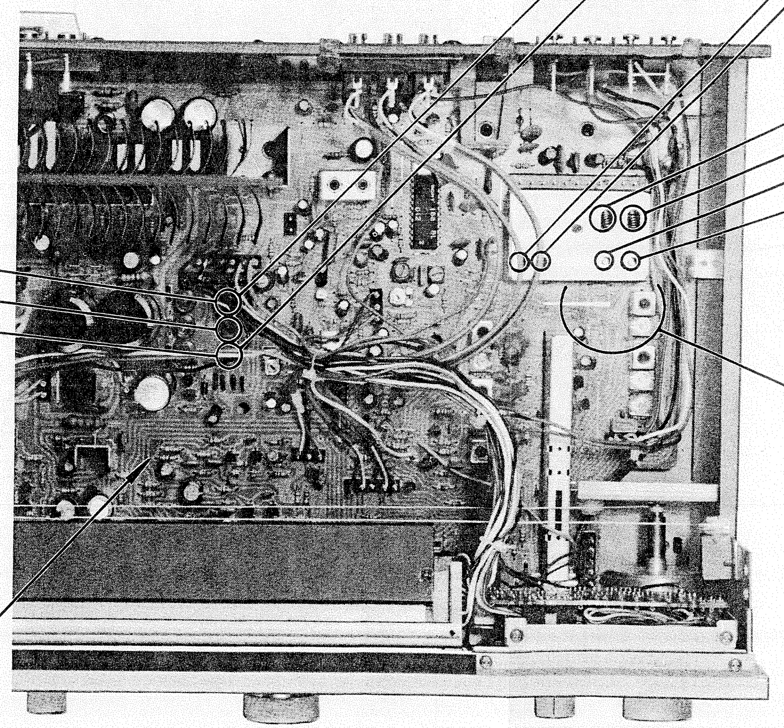

VTVM ①
set
REC OUT

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

FM FREQUENCY COVERAGE ADJUSTMENT 2

Dial Indication	FM Rf Signal Generator Frequency	Adjustment Part
88 MHz	88 MHz	RT805
98 MHz	98 MHz	RT804
108 MHz	108 MHz	RT801

Adjust for a maximum reading on VTVM ①.


tuner board

FM FRONT-END BLOCK

Adjustment is not necessary. But if it has been meddled with in some way, and if the adjustment is necessary by all means, adjust the FM front-end block as follows.

FM FREQUENCY COVERAGE ADJUSTMENT 1

1) Be sure to perform this adjustment before the FM frequency coverage adjustment 2.

TUNING CONTROL VOLTAGE ADJUSTMENT

Adjustment Part	Dial Indication	VTVM ② Reading
RT805	minimum frequency	2.73 V
RT801	maximum frequency	22.08 V

Adjust for a specified reading on VTVM ②.

LOCAL OSCILLATOR FREQUENCY ADJUSTMENT

Adjustment Part	Dial Indication	FM Rf Signal Generator Frequency
T2	minimum frequency	88 MHz
CT3	maximum frequency	108 MHz

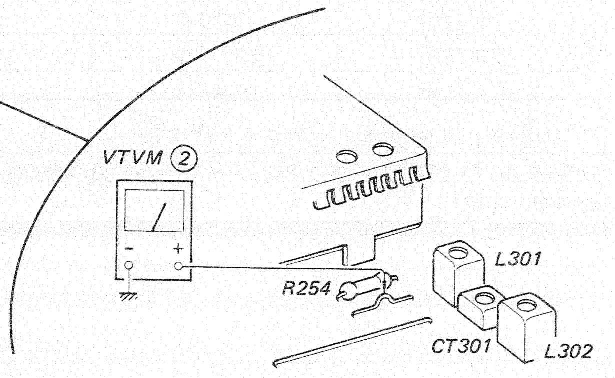
Adjust for a maximum reading on VTVM ①.

2) Be sure to perform this adjustment after the FM frequency coverage adjustment 2.

FM TRACKING ADJUSTMENT

Adjust for a maximum reading on VTVM ①.

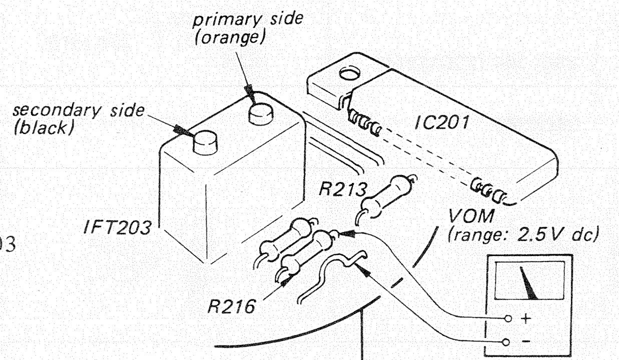
L4	88 MHz
L2	
CT2	108 MHz
CT1	


VTVM ②
R254
L301
CT301
L302

FM DISCRIMINATOR ALIGNMENT 1

Setting:

FUNCTION Switch: TUNER
Band Selector: FM
MODE Switch: MONO
TUNING: Detuned position


primary side
(orange)
secondary side
(black)
IC201
R213
IFT203
R216
VOM
(range: 2.5 V dc)
+
-

Procedure:

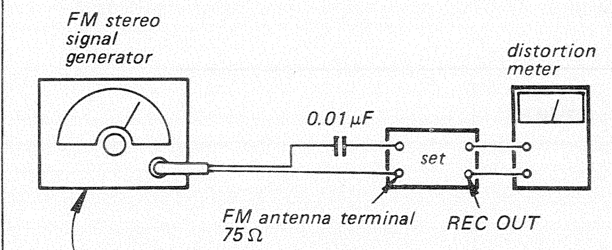
Adjust the orange core (primary-side) of IFT203 for 0 V reading on VOM.

Note: When replacing the ceramic filter (CF201), perform this alignment.

FM DISCRIMINATOR ALIGNMENT 2

Setting:

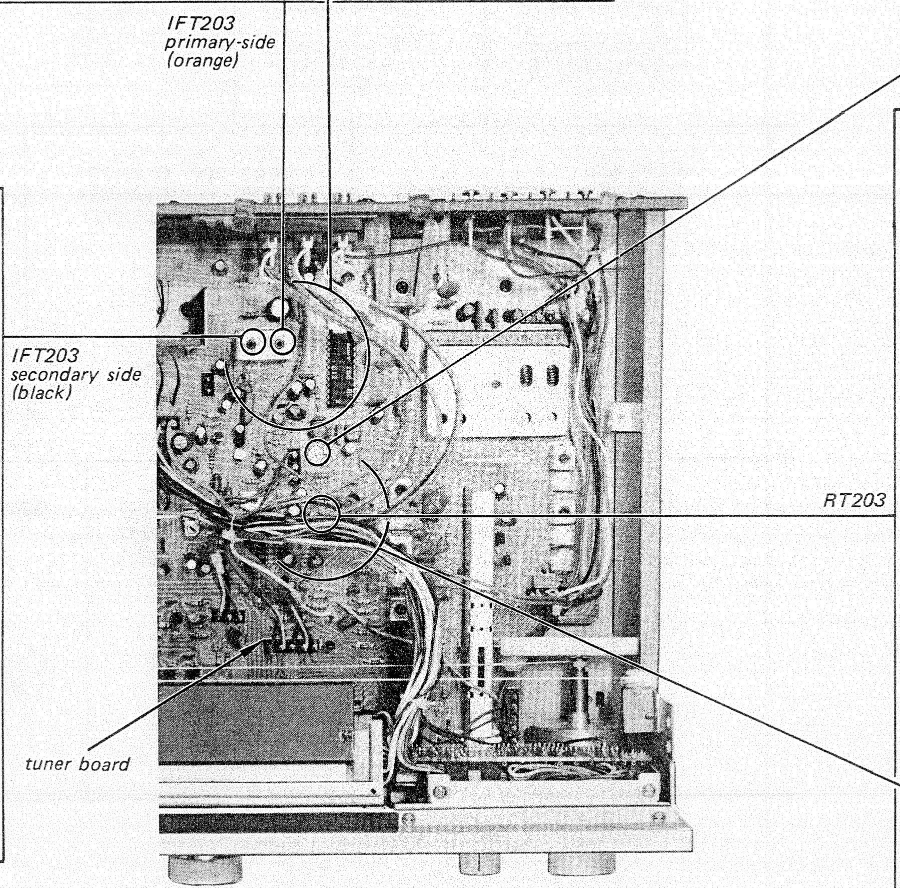
FUNCTION Switch: TUNER
Band Selector: FM
MODE Switch: MONO


FM stereo
signal
generator
distortion
meter
0.01 μF
set
FM antenna terminal
75 Ω
REC OUT

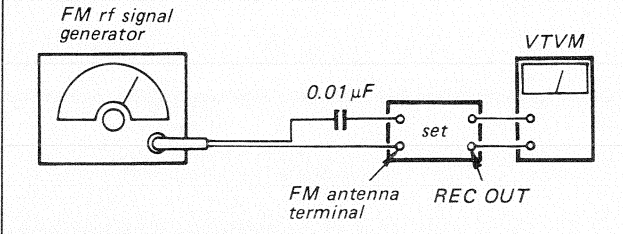
Carrier frequency: 98 MHz
Output level: 1 mV (60 dB)
Modulation: 400 Hz, 75 kHz deviation (100%)

Procedure:

Adjust the black core (secondary side) of IFT203 for minimum distortion.


IFT203
primary-side
(orange)
IFT203
secondary side
(black)
tuner board
RT203
RT201

MUTING LEVEL ADJUSTMENT


FM rf signal
generator
VTVM
0.01 μF
set
FM antenna
terminal
REC OUT

Carrier frequency: 98 MHz
Modulation: 400 Hz, 75 kHz deviation (100%)
Output level: 5 μV (14 dB)

Setting:

FUNCTION Switch: TUNER
MODE Switch: STEREO/FM-AM MUTE

Procedure:

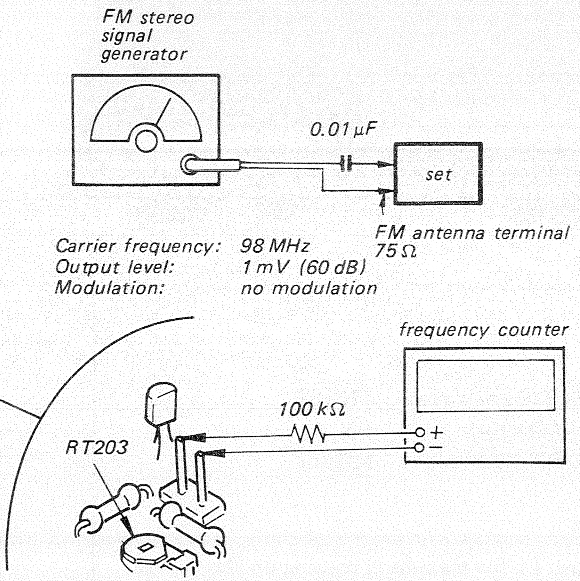
1. Turn RT201 and stop it just when the VTVM indication suddenly increases.
2. If necessary, turn RT201 fully clockwise and make sure that the VTVM indication increases when the output level of the FM rf signal generator is set to 16 μV (24 dB).

VCO ADJUSTMENT

Setting:

FUNCTION Switch: TUNER
Band Selector: FM
MODE Switch: STEREO/FM-AM MUTE

A) Regular Method


FM stereo
signal
generator
0.01 μF
set
FM antenna terminal
75 Ω
frequency counter
100 kΩ
RT203
+
-

Carrier frequency: 98 MHz
Output level: 1 mV (60 dB)
Modulation: no modulation

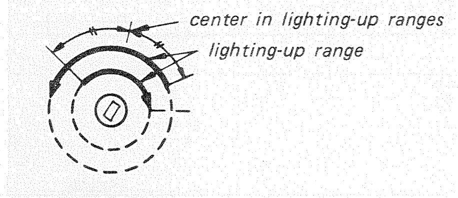
Procedure:

Adjust RT203 for 76 kHz ± 100 Hz on the frequency counter.

B) Simple Method

Procedure:

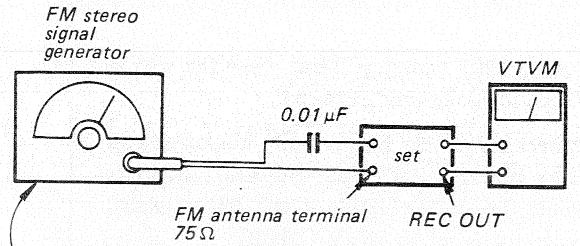
1. Tune the set to the FM stereo broadcasting signal.
2. Turn RT203 clockwise or counterclockwise and memorize the lighting-up range of STEREO lamp.
3. Secure RT203 at the center in lighting-up range of both turns as shown below.


center in lighting-up ranges
lighting-up range

FM STEREO SEPARATION ADJUSTMENT

Setting:

FUNCTION Switch: TUNER
Band Selector: FM
MODE Switch: STEREO/FM-AM MUTE


FM stereo signal generator
VTVM
0.01 µF
set
FM antenna terminal 75 Ω
REC OUT

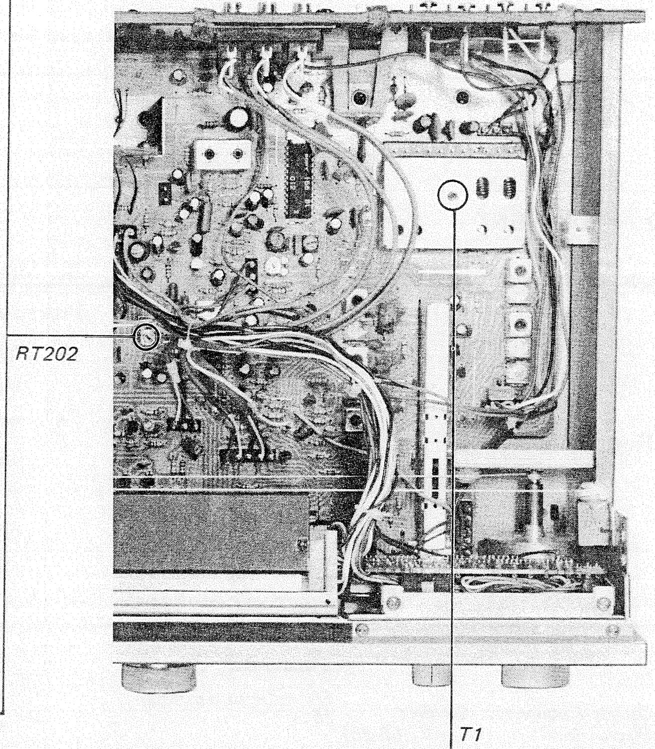
Carrier frequency: 98 MHz
Output level: 1 mV (60 dB)
Modulation:
Audio (400 Hz): 33.75 kHz deviation (50%)
Pilot (19 kHz): 7.5 kHz deviation (16%)
Sub channel (38 kHz): 33.75 kHz deviation (50%)

Procedure:

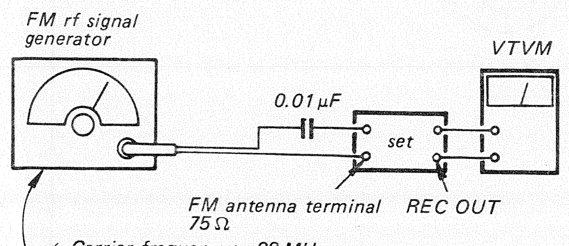
FM stereo signal generator output channel	VTVM connection	VTVM reading
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RT202 resistor for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RT202 resistor for minimum reading.

L-CH Stereo separation: Ⓐ − Ⓑ
R-CH Stereo separation: Ⓒ − Ⓓ

The difference between separations Ⓐ → Ⓑ and Ⓒ → Ⓓ are to be equal.



FM IF ALIGNMENT


FM rf signal generator
VTVM
0.01 µF
set
FM antenna terminal 75 Ω
REC OUT

Carrier frequency: 98 MHz
Output level: 12.5 µV (22 dB)
Modulation: 400 Hz, 75 kHz deviation (100%)

Setting:

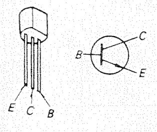
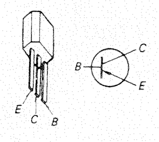
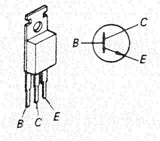
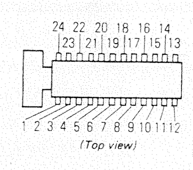
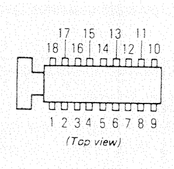
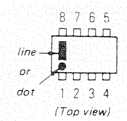
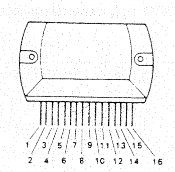
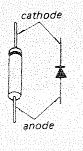
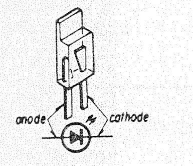
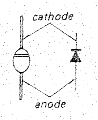
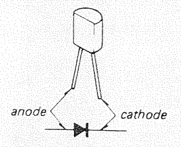
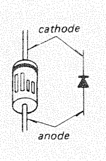
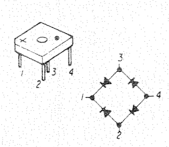
FUNCTION Switch: TUNER
Band Selector: FM
MODE Switch: MONO

Procedure:

Adjust T1 for maximum reading on the VTVM.

Replacement Semiconductors

For replacement, use semiconductors except in ( ).

Q201–205 Q501, 502 Q551, 552 Q602, 652 Q802, 804 :2SC1364 (2SC1815) Q301: 2SC1345 	Q401–406 Q601, 651 Q801 : 2SA1015 	Q803: 2SC1173 	
IC201: CX168 	IC202: CX178 	IC203: TL489CP (TL489C) 	IC701: SI1125HD 
D201, 202 D401–409 : 1S1555 (1T40) D810 	D203–207: GL9NG31 D208: GL9NG21 D209: GL9PR21 	D805: V09C (V06C) 	
D301, 302: ISV118 	D701: EQB01-07 (EQA01-07R) D806: EQB01-05 (EQA01-05R) D807: EQB01-15 (EQA01-15R) 	D801: S2VB20 	

E C B
B C E
(Top view)
line or dot
cathode
anode

SECTION 4. DIAGRAMS

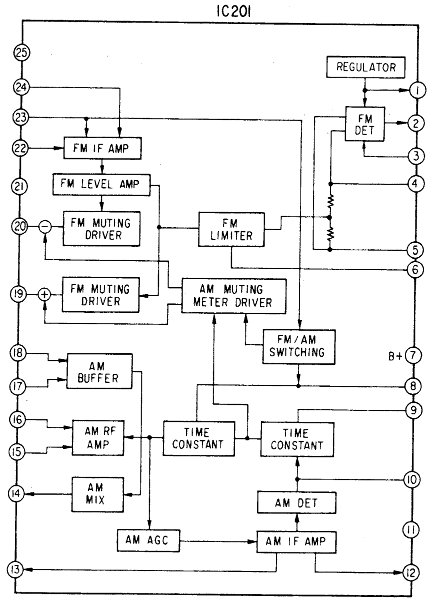
4-1. MOUNTING DIAGRAM

– Conductor Side –

Note:

- ○—: parts extracted from the component side.
- ●—: parts extracted from the conductor side.
- [ ]—: indicates side identified with part number.
- ▨ : B+ pattern
- ▨ : B– pattern
- ——▸——: signal path
- —·—·—▸: L-CH signal path
- —··—··—▸: R-CH signal path
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal (detuned) conditions with a VOM (20kΩ/V).
  no mark and ( ): FM, ⟨ ⟩: AM
- Voltage variations may be noted due to normal production tolerances.

IC201



REGULATOR
FM DET
FM IF AMP
FM LEVEL AMP
FM MUTING DRIVER
FM LIMITER
FM MUTING DRIVER
AM MUTING METER DRIVER
FM/AM SWITCHING
B+
AM BUFFER
AM RF AMP
TIME CONSTANT
TIME CONSTANT
AM MIX
AM DET
AM AGC
AM IF AMP
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑫
⑬
⑭
⑮
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⑰
⑱
⑲
⑳
㉑
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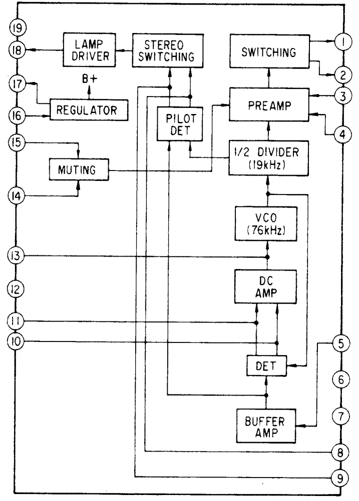
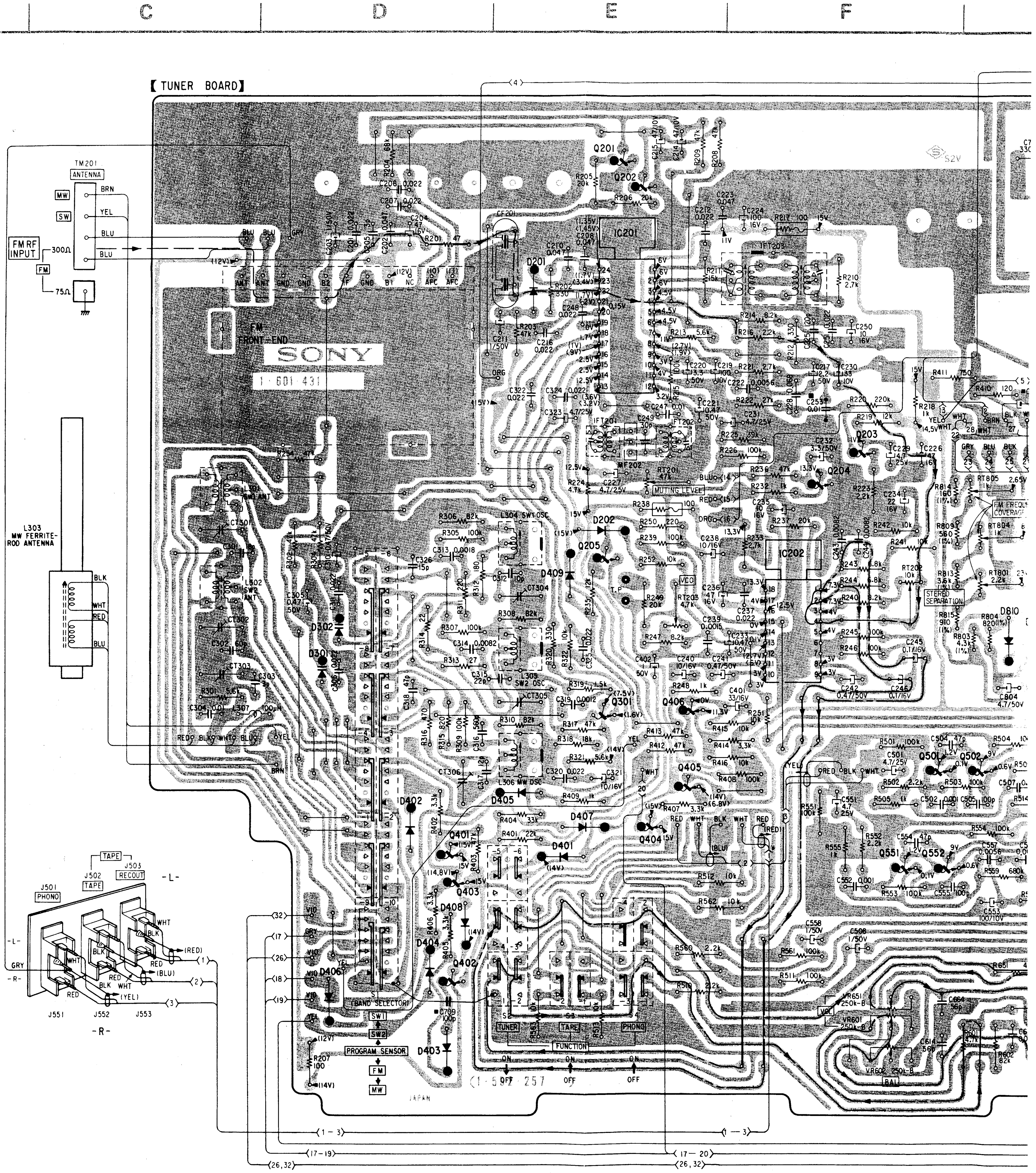
㉓
㉔
㉕

IC202

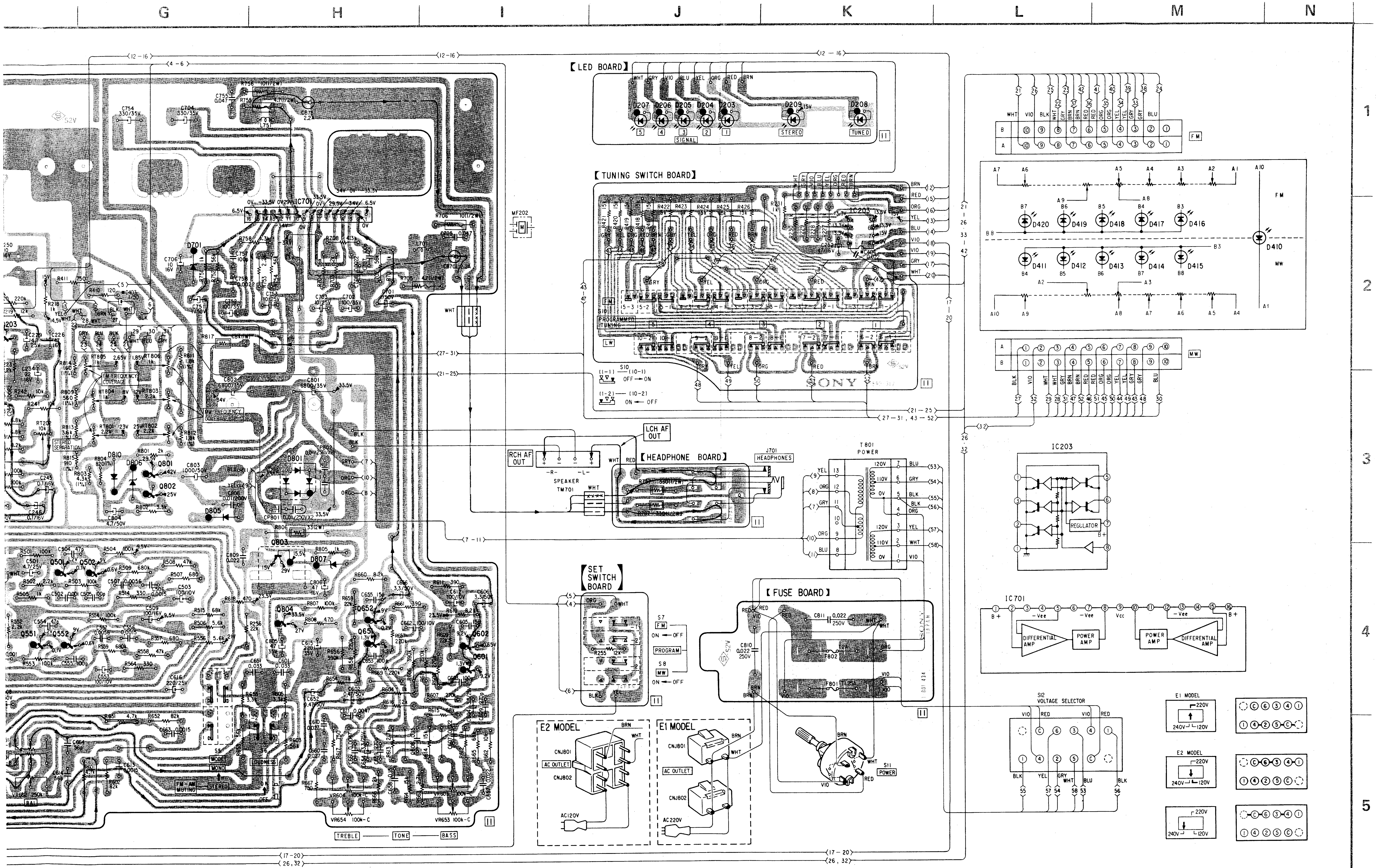


LAMP DRIVER
STEREO SWITCHING
SWITCHING
B+
REGULATOR
PILOT DET
PREAMP
MUTING
1/2 DIVIDER (19kHz)
VCO (76kHz)
DC AMP
DET
BUFFER AMP
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑫
⑬
⑭
⑮
⑯
⑰
⑱
⑲

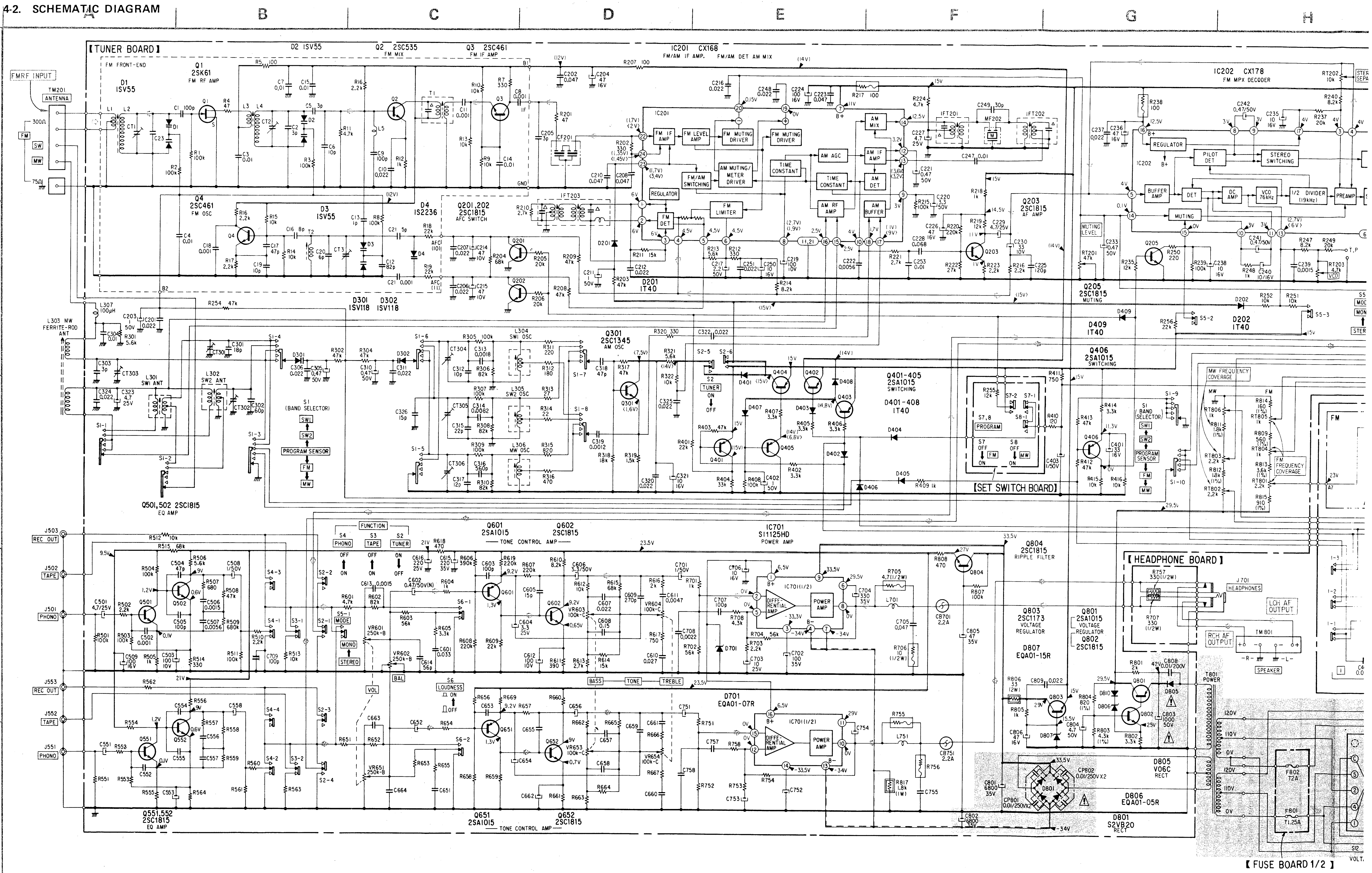
Q , IC	D
201	
202	
IC701	201
IC201	
	701
203	
204	
	202
205	
	409
IC202 801	302 810 806,801
802	301
	805
301 406	
803 501,502	807
405	405
404 804,652	402,407
401 551,552 651,602 403	401
601	
	408
	404
402	406
	403



A
B
C
D
E
F
1
2
3
4
5
【TUNER BOARD】
TM201 ANTENNA
MW
SW
FM
FM RF INPUT
300Ω
75Ω
BRN
YEL
BLU
L303 MW FERRITE-ROD ANTENNA
BLK
WHT
RED
BLU
J501 PHONO
J502 TAPE
J503 RECOUT
TAPE
-L-
-R-
GRY
J551
J552
J553
FM FRONT-END
SONY
1-601-431
IC201
IC202
CF201
IFT201
IFT202
IFT203
MUTING LEVEL
VCO
STEREO SEPARATION
FM FREQ COVERAGE
BAND SELECTOR
PROGRAM SENSOR
FM
MW
SW1
SW2
FUNCTION
TUNER
TAPE
PHONO
ON
OFF
BAL
VR601
VR602
VR651
1-597-257
JAPAN


G
H
I
J
K
L
M
N
1
2
3
4
5
【LED BOARD】
SIGNAL
STEREO
TUNED
【TUNING SWITCH BOARD】
PROGRAMMER TUNING
FM
LW
MW
IC701
IC203
MF202
LCH AF OUT
RCH AF OUT
SPEAKER TM701
【HEADPHONE BOARD】
J701 HEADPHONES
T801 POWER
SET SWITCH BOARD
S7
S8
PROGRAM
【FUSE BOARD】
S11 POWER
E2 MODEL
E1 MODEL
CNJ801
CNJ802
AC OUTLET
AC120V
AC220V
S12 VOLTAGE SELECTOR
REGULATOR
DIFFERENTIAL AMP
POWER AMP
TREBLE
TONE
BASS
VR654 100k-C
VR653 100k-C
STEREO SEPARATION
MW FREQUENCY COVERAGE
FM FREQUENCY COVERAGE
LOUDNESS
MODE
MONO
FM-AM MUTING
STEREO
S5
S6
D410
FM
MW

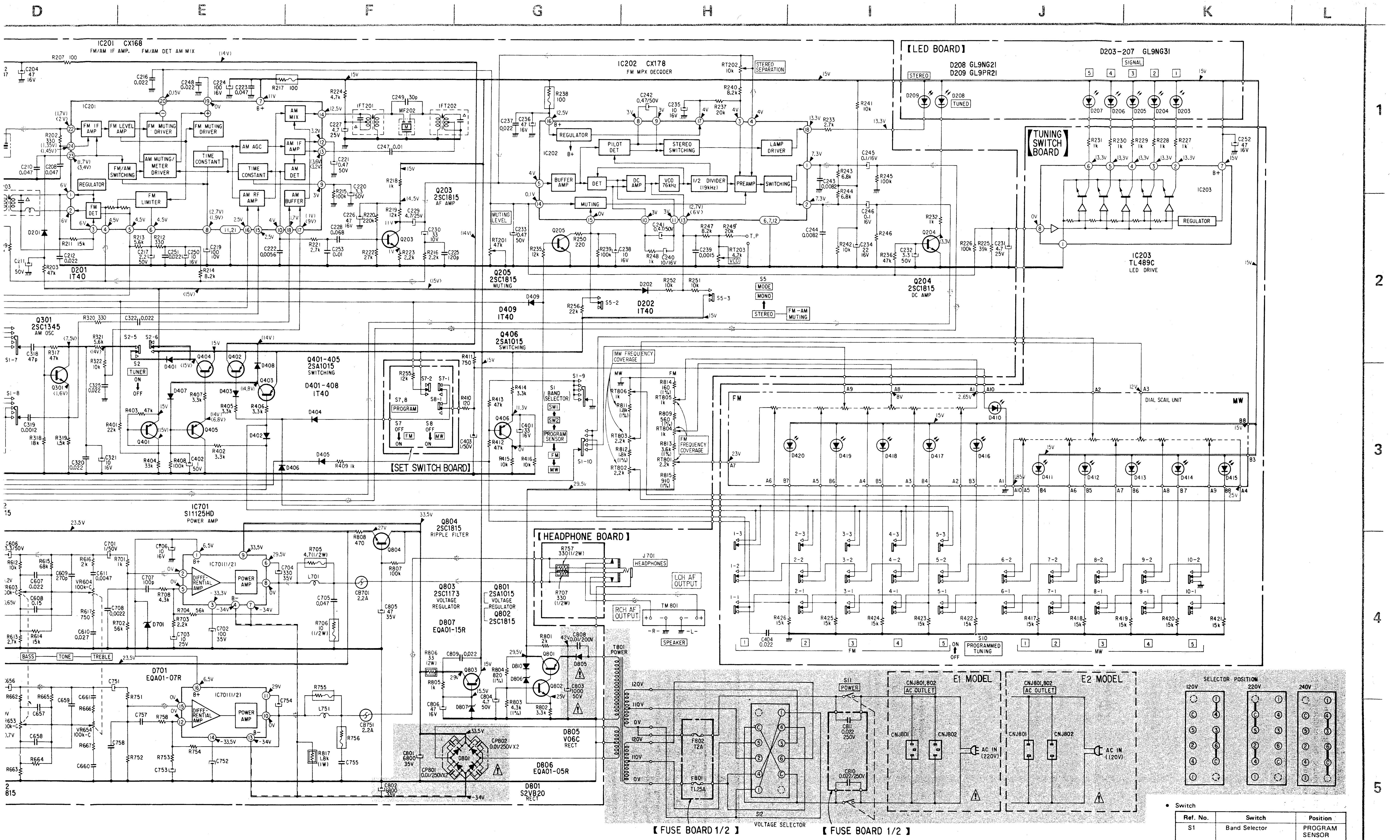
4-2. SCHEMATIC DIAGRAM


A
B
C
D
E
F
G
H
1
2
3
4
5
[TUNER BOARD]
FM FRONT-END
FMRF INPUT
TM201 ANTENNA
300Ω
75Ω
FM
SW
MW
D1 1SV55
Q1 2SK61 FM RF AMP
D2 1SV55
Q2 2SC535 FM MIX
Q3 2SC461 FM IF AMP
Q4 2SC461 FM OSC
D3 1SV55
D4 1S2236
Q201,202 2SC1815 AFC SWITCH
IC201 CX168 FM/AM IF AMP. FM/AM DET AM MIX
FM IF AMP
FM LEVEL AMP
FM MUTING DRIVER
AM MUTING/METER DRIVER
FM/AM SWITCHING
REGULATOR
FM DET
FM LIMITER
TIME CONSTANT
AM AGC
AM MIX
AM IF AMP
AM DET
AM RF AMP
AM BUFFER
D201 1T40
Q203 2SC1815 AF AMP
IC202 CX178 FM MPX DECODER
REGULATOR
PILOT DET
STEREO SWITCHING
BUFFER AMP
DET
DC AMP
VCO 76kHz
1/2 DIVIDER (19kHz)
PREAMP
MUTING
MUTING LEVEL
Q205 2SC1815 MUTING
D409 1T40
D202 1T40
L303 MW FERRITE-ROD ANT
L301 SW1 ANT
L302 SW2 ANT
D301 D302 1SV118 1SV118
S1 (BAND SELECTOR)
SW1
SW2
PROGRAM SENSOR
FM
MW
L304 SW1 OSC
L305 SW2 OSC
L306 MW OSC
Q301 2SC1345 AM OSC
S2 TUNER ON OFF
Q401-405 2SA1015 SWITCHING
D401-408 1T40
Q406 2SA1015 SWITCHING
S7,8 PROGRAM
S7 OFF ON
S8 OFF ON
[SET SWITCH BOARD]
MW FREQUENCY COVERAGE
FM FREQUENCY COVERAGE
Q501,502 2SC1815 EQ AMP
J503 REC OUT
J502 TAPE
J501 PHONO
J553 REC OUT
J552 TAPE
J551 PHONO
Q551,552 2SC1815 EQ AMP
FUNCTION
S4 PHONO
S3 TAPE
S2 TUNER
S5-1 MODE MONO STEREO
VR601 250k-B
VR602 250k-B BAL
VOL
S6 LOUDNESS ON OFF
Q601 2SA1015
Q602 2SC1815
TONE CONTROL AMP
BASS
TONE
TREBLE
Q651 2SA1015
Q652 2SC1815
TONE CONTROL AMP
IC701 SI1125HD POWER AMP
IC701(1/2)
DIFFERENTIAL AMP
POWER AMP
D701 EQA01-07R
Q804 2SC1815 RIPPLE FILTER
Q803 2SC1173 VOLTAGE REGULATOR
D807 EQA01-15R
Q801 2SA1015 REGULATOR
Q802 2SC1815
[HEADPHONE BOARD]
J701 HEADPHONES
LCH AF OUTPUT
RCH AF OUTPUT
TM801
SPEAKER
T801 POWER
D805 V06C RECT
D806 EQA01-05R
D801 S2VB20 RECT
F802 T2A
F801 T1.25A
120V
110V
0V
[FUSE BOARD 1/2]
VOLT.

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:
- All capacitors are in µF unless otherwise noted. pF: µµF 50WV or less are not indicated except for electrolytics and tantalum.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ: 1000Ω; MΩ: 1000kΩ

- ~~: fusible r
- △: internal comp
- ▭: panel des
- ▭: adjustme
- —: B+ bus.
- ---: B- bus.


D
E
F
G
H
I
J
K
L
1
2
3
4
5
IC201 CX168
FM/AM IF AMP. FM/AM DET AM MIX
IC202 CX178
FM MPX DECODER
【LED BOARD】
D203-207 GL9NG31
D208 GL9NG21
D209 GL9PR21
STEREO
TUNED
SIGNAL
【TUNING SWITCH BOARD】
IC203
TL489C
LED DRIVE
FM IF AMP
FM LEVEL AMP
FM MUTING DRIVER
AM MUTING/METER DRIVER
FM/AM SWITCHING
REGULATOR
FM DET
FM LIMITER
TIME CONSTANT
AM AGC
AM MIX
AM IF AMP
AM DET
AM RF AMP
AM BUFFER
PILOT DET
STEREO SWITCHING
LAMP DRIVER
BUFFER AMP
DET
DC AMP
VCO 76kHz
1/2 DIVIDER (19kHz)
PREAMP
SWITCHING
MUTING
STEREO SEPARATION
MUTING LEVEL
Q203 2SC1815 AF AMP
Q204 2SC1815 DC AMP
Q205 2SC1815 MUTING
D201 1T40
D202 1T40
D409 1T40
S5 MODE MONO STEREO
FM-AM MUTING
Q301 2SC1345 AM OSC
Q401-405 2SA1015 SWITCHING
D401-408 1T40
Q406 2SA1015 SWITCHING
S2 TUNER ON OFF
[SET SWITCH BOARD]
PROGRAM
S7 OFF FM ON
S8 OFF MW ON
S1 BAND SELECTOR
SW1 SW2 PROGRAM SENSOR FM MW
MW FREQUENCY COVERAGE
FM FREQUENCY COVERAGE
DIAL SCAIL UNIT
FM
MW
IC701 SI1125HD POWER AMP
DIFFERENTIAL AMP
POWER AMP
Q804 2SC1815 RIPPLE FILTER
Q803 2SC1173 VOLTAGE REGULATOR
D807 EQA01-15R
Q801 2SA1015 VOLTAGE REGULATOR
Q802 2SC1815
D701 EQA01-07R
BASS
TONE
TREBLE
【HEADPHONE BOARD】
J701 HEADPHONES
LCH AF OUTPUT
RCH AF OUTPUT
TM801
SPEAKER
S10 ON OFF PROGRAMMED TUNING
T801 POWER
D805 V06C RECT
D806 EQA01-05R
D801 S2VB20 RECT
S11 POWER
E1 MODEL
E2 MODEL
CNJ801,802 AC OUTLET
AC IN (220V)
AC IN (120V)
SELECTOR POSITION
120V
220V
240V
S12
VOLTAGE SELECTOR
【FUSE BOARD 1/2】
【FUSE BOARD 1/2】

- Switch

Ref. No.	Switch	Position
S1	Band Selector	PROGRAM SENSOR
S2–4	FUNCTION	TUNER
S5	MODE	STEREO
S6	LOUDNESS	OFF
S7	PROGRAM FM	OFF
S8	PROGRAM MW	OFF
S10	PROGRAMMED TUNING	OFF
S11	POWER	OFF
S12	VOLTAGE SELECTOR	——

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalum.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ: 1000Ω; MΩ: 1000kΩ

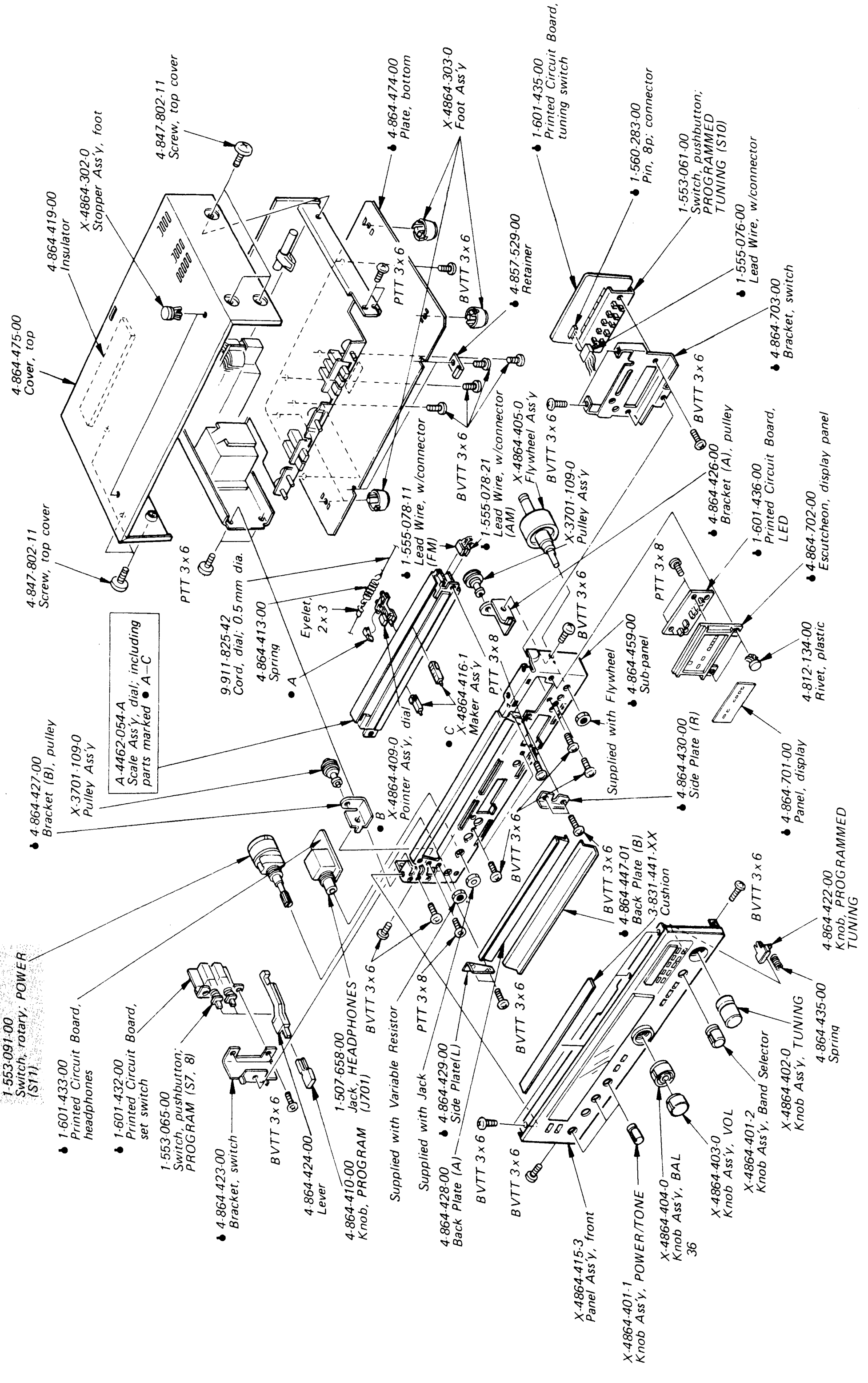
- ⊣⩘⊢ : fusible resistor.
- △: internal component.
- ▭ : panel designation.
- ▭ : adjustment for repair.
- ——— : B+ bus.
- - - - : B- bus.

- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal (detuned) conditions with a VOM (20kΩ/V).
  no mark and ( ): FM, ⟨ ⟩: AM
- Voltage variations may be noted due to normal production tolerances.

- ⇨ :L-CH signal path
- ⇨ :R-CH signal path

SECTION 5
EXPLODED VIEWS

5-1.

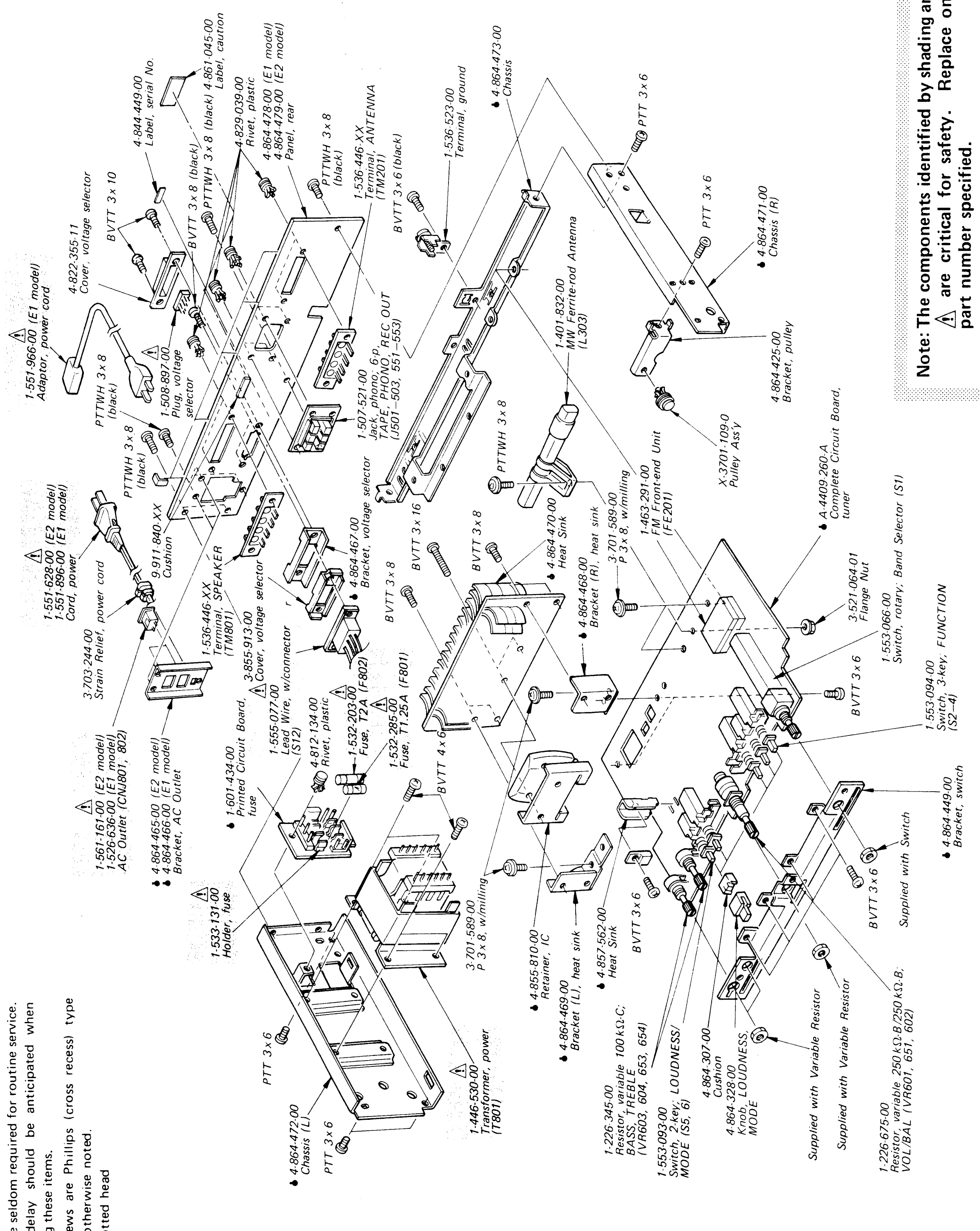


E
D
C
B
A
1
2
3
4
4-864-475-00 Cover, top
4-864-419-00 Insulator
X-4864-302-0 Stopper Ass'y, foot
4-847-802-11 Screw, top cover
4-864-474-00 Plate, bottom
X-4864-303-0 Foot Ass'y
PTT 3×6
BVTT 3×6
4-857-529-00 Retainer
1-601-435-00 Printed Circuit Board, tuning switch
1-560-283-00 Pin, 8p; connector
1-553-061-00 Switch, pushbutton; PROGRAMMED TUNING (S10)
1-555-076-00 Lead Wire, w/connector
4-864-703-00 Bracket, switch
BVTT 3×6
4-864-426-00 Bracket (A), pulley
1-601-436-00 Printed Circuit Board, LED
4-864-702-00 Escutcheon, display panel
X-3701-109-0 Pulley Ass'y
BVTT 3×6
X-4864-405-0 Flywheel Ass'y
1-555-078-21 Lead Wire, w/connector (AM)
BVTT 3×6
1-555-078-11 Lead Wire (FM)
4-847-802-11 Screw, top cover
PTT 3×6
9-911-825-42 Cord, dial, 0.5 mm dia.
4-864-413-00 Spring
Eyelet 2×3
A
A-4462-054-A Scale Ass'y, dial; including parts marked ● A–C
C
X-4864-416-1 Maker Ass'y
PTT 3×8
BVTT 3×6
PTT 3×8
4-864-459-00 Sub-panel
Supplied with Flywheel
4-812-134-00 Rivet, plastic
4-864-430-00 Side Plate (R)
4-864-701-00 Panel, display
B
X-4864-409-0 Pointer Ass'y, dial
4-864-427-00 Bracket (B), pulley
X-3701-109-0 Pulley Ass'y
BVTT 3×6
4-864-447-01 Back Plate (B)
3-831-441-XX Cushion
BVTT 3×6
4-864-422-00 Knob, PROGRAMMED TUNING
1-553-091-00 Switch, rotary; POWER (S11)
1-601-433-00 Printed Circuit Board, headphones
1-601-432-00 Printed Circuit Board, set switch
1-553-065-00 Switch, pushbutton; PROGRAM (S7, 8)
4-864-423-00 Bracket, switch
BVTT 3×6
4-864-424-00 Lever
4-864-410-00 Knob, PROGRAM
1-507-658-00 Jack, HEADPHONES (J701)
BVTT 3×6
Supplied with Variable Resistor
Supplied with Jack
PTT 3×8
4-864-429-00 Side Plate (L)
4-864-428-00 Back Plate (A)
BVTT 3×6
BVTT 3×6
BVTT 3×6
X-4864-415-3 Panel Ass'y, front
X-4864-401-1 Knob Ass'y, POWER/TONE
X-4864-404-0 Knob Ass'y, BAL
36
X-4864-403-0 Knob Ass'y, VOL
X-4864-401-2 Knob Ass'y, Band Selector
X-4864-402-0 Knob Ass'y, TUNING
4-864-435-00 Spring

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:
- Items marked "●" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (-) = slotted head

5-2.



E
D
C
B
A
1
2
3
4
1-551-966-00 (E1 model) Adaptor, power cord
4-822-355-11 Cover, voltage selector
BVTT 3×10
4-844-449-00 Label, serial No.
4-861-045-00 Label, caution
PTTWH 3×8 (black)
BVTT 3×8 (black)
4-829-039-00 Rivet, plastic
4-864-478-00 (E1 model)
4-864-479-00 (E2 model) Panel, rear
PTTWH 3×8 (black)
1-536-446-XX Terminal, ANTENNA (TM201)
BVTT 3×6 (black)
1-536-523-00 Terminal, ground
4-864-473-00 Chassis
PTT 3×6
PTT 3×6
4-864-471-00 Chassis (R)
4-864-425-00 Bracket, pulley
X-3701-109-0 Pulley Ass'y
1-401-832-00 MW Ferrite-rod Antenna (L303)
1-507-521-00 Jack, phono, 6p; TAPE, PHONO, REC OUT (J501–503, 551–553)
PTTWH 3×8 (black)
1-508-897-00 Plug, voltage selector
PTTWH 3×8 (black)
9-911-840-XX Cushion
1-551-628-00 (E2 model)
1-551-896-00 (E1 model) Cord, power
1-536-446-XX Terminal, SPEAKER (TM801)
3-855-913-00 Cover, voltage selector
4-864-467-00 Bracket, voltage selector
BVTT 3×16
BVTT 3×8
BVTT 3×8
4-864-470-00 Heat Sink
PTTWH 3×8
1-463-291-00 FM Front-end Unit (FE201)
3-701-589-00 P 3×8, w/milling
4-864-468-00 Bracket (R), heat sink
A-4409-260-A Complete Circuit Board, tuner
3-521-064-01 Flange Nut
1-553-066-00 Switch, rotary, Band Selector (S1)
1-553-094-00 Switch, 3-key, FUNCTION (S2–4)
BVTT 3×6
3-703-244-00 Strain Relief, power cord
1-561-161-00 (E2 model)
1-526-636-00 (E1 model) AC Outlet (CNJ801, 802)
4-864-465-00 (E2 model)
4-864-466-00 (E1 model) Bracket, AC Outlet
1-601-434-00 Printed Circuit Board, fuse
1-555-077-00 Lead Wire, w/connector (S12)
4-812-134-00 Rivet, plastic
1-532-203-00 Fuse, T2A (F802)
1-532-285-00 Fuse, T1.25A (F801)
BVTT 4×6
1-533-131-00 Holder, fuse
3-701-589-00 P 3×8, w/milling
4-855-810-00 Retainer, IC
4-864-469-00 Bracket (L), heat sink
4-857-562-00 Heat Sink
BVTT 3×6
BVTT 3×6
Supplied with Switch
4-864-449-00 Bracket, switch
PTT 3×6
4-864-472-00 Chassis (L)
PTT 3×6
1-446-530-00 Transformer, power (T801)
1-226-345-00 Resistor, variable 100 kΩ-C; BASS, TREBLE (VR603, 604, 653, 654)
1-553-093-00 Switch, 2-key; LOUDNESS/MODE (S5, 6)
4-864-307-00 Cushion
4-864-328-00 Knob, LOUDNESS, MODE
Supplied with Variable Resistor
Supplied with Variable Resistor
1-226-675-00 Resistor, variable 250 kΩ-B/250 kΩ-B; VOL/BAL (VR601, 651, 602)

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:
- Items marked "●" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (-) = slotted head

Ref

⇒ Q2

Q3

Q4

⇒ Q5
⇒ Q5

Q6
⇒ Q6

Q8
⇒ Q8
Q8
⇒ Q8

IC2
IC2
⇒ IC2

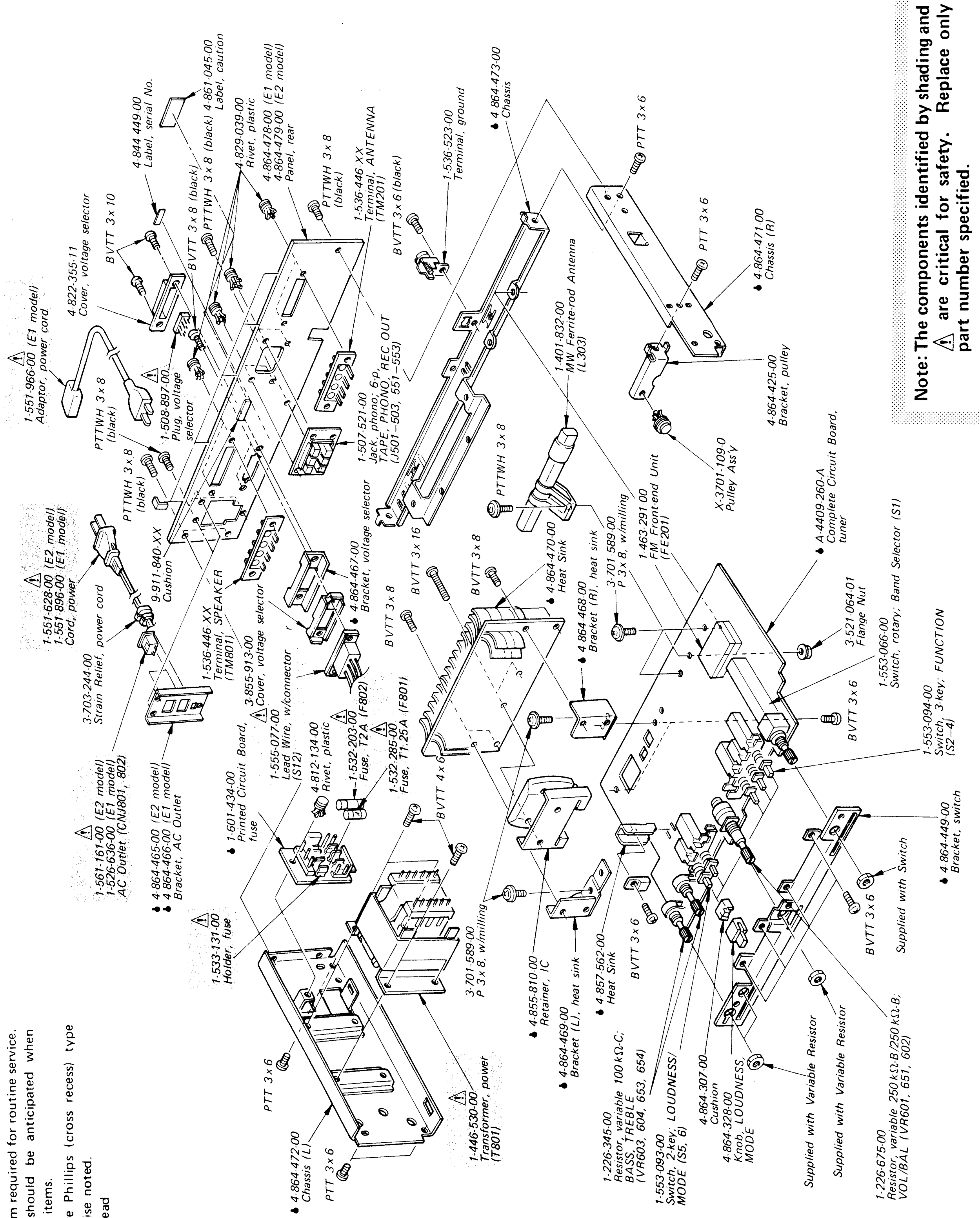
IC7

⇒ D2
D2
D2
D2

D3

⇒

5-2.



E
D
C
B
A
1
2
3
4
⚠ 1-551-966-00 (E1 model) Adaptor, power cord
4-822-355-11 Cover, voltage selector
BVTT 3×10
4-844-449-00 Label, serial No.
BVTT 3×8 (black)
PTTWH 3×8 (black)
4-861-045-00 Label, caution
⚠ 1-829-039-00 Rivet, plastic
4-864-478-00 (E1 model)
4-864-479-00 (E2 model)
Panel, rear
PTTWH 3×8 (black)
1-536-446-XX Terminal, ANTENNA (TM201)
BVTT 3×6 (black)
1-536-523-00 Terminal, ground
♦ 4-864-473-00 Chassis
PTT 3×6
♦ 4-864-471-00 Chassis (R)
4-864-425-00 Bracket, pulley
X-3701-109-0 Pulley Ass'y
♦ A-4409-260-A Complete Circuit Board, tuner
1-553-066-00 Switch, rotary; Band Selector (S1)
3-521-064-01 Flange Nut
1-553-066-00 Switch, 3-key; FUNCTION
BVTT 3×6
1-553-094-00 Switch, (S2-4)
♦ 4-864-449-00 Bracket, switch
Supplied with Switch
BVTT 3×6
1-226-675-00 Resistor, variable 250kΩ-B/250kΩ-B; VOL/BAL (VR601, 651, 602)
Supplied with Variable Resistor
Supplied with Variable Resistor
4-864-328-00 Knob, LOUDNESS MODE
4-864-307-00 Cushion
1-553-093-00 Switch, 2-key; LOUDNESS/ MODE (S5, 6)
1-226-345-00 Resistor, variable 100kΩ-C; BASS, TREBLE (VR603, 604, 653, 654)
BVTT 3×6
♦ 4-857-562-00 Heat Sink
♦ 4-864-469-00 Bracket (L), heat sink
♦ 4-855-810-00 Retainer, IC
3-701-589-00 P 3×8, w/milling
⚠ 1-446-530-00 Transformer, power (T801)
PTT 3×6
♦ 4-864-472-00 Chassis (L)
PTT 3×6
⚠ 1-533-131-00 Holder, fuse
⚠ 1-561-161-00 (E2 model)
1-526-636-00 (E1 model)
AC Outlet (CNJ801, 802)
♦ 4-864-465-00 (E2 model)
♦ 4-864-466-00 (E1 model)
Bracket, AC Outlet
♦ 1-601-434-00 Printed Circuit Board, fuse
1-555-077-00 Lead Wire, w/connector (S12)
4-812-134-00 Rivet, plastic
⚠ 1-532-203-00 Fuse, T2A (F802)
⚠ 1-532-285-00 Fuse, T1.25A (F801)
BVTT 4×6
3-703-244-00 Strain Relief, power cord
⚠ 1-551-628-00 (E2 model)
1-551-896-00 (E1 model)
Cord, power
9-911-840-XX Cushion
PTTWH 3×8 (black)
⚠ 3-855-913-00 Cover, voltage selector
1-536-446-XX Terminal, SPEAKER (TM801)
PTTWH 3×8 (black)
1-508-897-00 Plug, voltage selector
1-507-521-00 Jack, phono, 6p, REC OUT TAPE, PHONO (J501-503, 551-553)
♦ 4-864-467-00 Bracket, voltage selector
BVTT 3×8
BVTT 3×16
PTTWH 3×8
♦ 4-864-470-00 Heat Sink
♦ 4-864-468-00 Bracket (R), heat sink
BVTT 3×8
1-401-832-00 MW Ferrite-rod Antenna (L303)
3-701-589-00 P 3×8, w/milling
1-463-291-00 FM Front-end Unit (FE201)

Note:
- Items marked "♦" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All screws are Phillips (cross recess) type unless otherwise noted.
(-) = slotted head

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

SECTION 6
ELECTRICAL PARTS LIST

Ref. No.	*Part No.*	*Description*
	PRINTED CIRCUIT BOARDS	
	♦ 1-601-432-00	Set Switch
	♦ 1-601-433-00	Headphone
	♦ 1-601-434-00	Fuse
	♦ 1-601-435-00	Tuning Switch
	♦ 1-601-436-00	LED
	SEMICONDUCTORS	
	Transistors	
⇒ Q201–205	8-729-663-47	2SC1364
Q301	8-729-334-58	2SC1345
Q401–406	8-729-201-52	2SA1015
⇒ Q501,551 ⇒ Q502,552	8-729-663-47	2SC1364
Q601,651	8-729-201-52	2SA1015
⇒ Q602,652	8-729-663-47	2SC1364
Q801	8-729-201-52	2SA1015
⇒ Q802	8-729-663-47	2SC1364
Q803	8-729-217-33	2SC1173
⇒ Q804	8-729-663-47	2SC1364
	ICs	
IC201	8-751-680-01	CX168
IC202	8-751-780-00	CX178
⇒ IC203	8-759-904-89	TL489CP
IC701	8-759-301-25	SI1125HD
	Diodes	
⇒ D201,202	8-719-815-55	1S1555
D203–207	8-719-909-31	GL9NG31
D208	8-719-909-22	GL9NG21
D209	8-719-909-21	GL9PR21
D301,302	8-719-100-81	ISV118

⇒: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	*Part No.*	*Description*
⇒ D401–409	8-719-815-55	1S1555
⇒ D701	8-719-931-07	EQB01-07
D801	⚠ 8-719-502-20	S2VB20
⇒ D805	⚠ 8-719-900-93	V09C
⇒ D806	8-719-931-05	EQB01-05
⇒ D807	8-719-931-15	EQB01-15
⇒ D810	8-719-815-55	1S1555
	COILS	
L301	1-401-820-00	SW1 Ant
L302	1-401-821-00	SW2 Ant
L303	1-401-832-00	MW Ferrite-rod Ant
L304	1-405-883-00	SW1 Osc
L305	1-405-884-00	SW2 Osc
L306	1-405-881-00	MW Osc
L307	1-407-169-XX	100μH, microinductor
♦ L701, 751	1-420-872-00	Coil
	TRANSFORMERS	
IFT201	1-409-323-00	AM IFT
IFT202	1-409-324-00	AM IFT
IFT203	1-404-167-00	FM Discriminator
T801	⚠ 1-446-530-00	Power

CAPACITORS

All capacitors are in μF. Common capacitors are omitted.
Refer to the list on page 39 and 40 for their part numbers. p: μμF, elect: electrolytic

Ref. No.	*Part No.*	*Description*		
C245,246	1-131-451-00	0.1	16V	tantalum
C252	1-123-319-00	47	16V	elect
C305,310	1-121-911-00	0.47	50V	elect
C312	1-102-253-00	10p		ceramic
C315	1-102-959-00	22p		ceramic
C317	1-102-287-00	12p		ceramic
C326	1-102-259-00	15p		ceramic

Items marked "♦" are not stocked because they are seldom required for routine service. Some delay should be anticipated when ordering these items.

Ref. No.	*Part No.*	*Description*
C801,802	⚠ 1-125-155-00	6800 35V elect
C803	⚠ 1-123-061-00	1000 50V elect
C808	⚠ 1-108-421-00	0.01 200V mylar
C810,811	⚠ 1-130-267-00	0.022 250V film
CP801,802	⚠ 1-102-394-00	0.01 250V×2 ceramic
CT301–306	1-141-171-00	Trimmer

RESISTORS

All resistors are in ohms. Common ¼W carbon resistors are omitted.
Refer to the list on page 38 for their part numbers.

Ref. No.	*Part No.*	*Description*
R217, 238	1-217-399-00	100 ¼W fusible
R705,755	1-212-950-00	4.7 ½W fusible
R706,756	1-212-958-00	10 ½W fusible
R707,757	1-247-228-00	330 ½W carbon (nonflammable)
R803	1-214-147-00	4.3 k ¼W metal oxide (1%)
R804	1-214-130-00	820 ¼W metal oxide (1%)
R806	1-206-475-00	33 2W metal oxide (nonflammable)
R809	1-214-126-00	560 ¼W metal oxide (1%)
R811, 812	1-214-138-00	1.8 k ¼W metal oxide (1 %)
R813	1-214-145-00	3.6 k ¼W metal oxide (1%)
R814	1-214-113-00	160 ¼W metal oxide (1%)
R815	1-214-131-00	910 ¼W metal oxide (1%)
R817	1-213-146-00	1.8 k 1W metal oxide (nonflammable)
⇒ RT201	1-226-238-00	50 k-B, adjustable; muting level
RT202	1-226-236-00	10 k-B, adjustable; FM stereo separation
⇒ RT203	1-226-235-00	5 k-B, adjustable; VCO
RT801–803	1-226-664-00	2.2 k-B, adjustable; FM frequency coverage, MW frequency coverage
RT804–806	1-226-663-00	1 k-B, adjustable; FM frequency coverage, MW frequency coverage

⇒: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	*Part No.*	*Description*
VR601,651 VR602	1-226-675-00	250 k-B/250 k-B, variable; VOL, BAL
VR603,653 VR604,654	1-226-345-00	100 k-C, variable; BASS, TREBLE

SWITCHES

Ref. No.	*Part No.*	*Description*
S1	1-553-066-00	Rotary, Band Selector
S2–4	1-553-094-00	3-key, FUNCTION
S5,6	1-553-093-00	2-key, LOUDNESS, MODE
S7,8	1-553-065-00	Pushbutton, PROGRAM
S10	1-553-061-00	Pushbutton, PROGRAMMED TUNING
S11	⚠ 1-553-091-00	Rotary, POWER
S12	⚠ 1-555-077-00	Lead Wire, w/connector

MISCELLANEOUS

Ref. No.	*Part No.*	*Description*
CB701,751	1-532-380-81	Circuit Breaker, 2.2 A
CF201	1-527-346-00	Filter, solid state
CNJ801	⚠ 1-526-636-00	AC Outlet (E1 model)
CNJ802	⚠ 1-561-161-00	AC Outlet (E2 model)
F801	⚠ 1-532-285-00	Fuse, T1.25A
F802	⚠ 1-532-203-00	Fuse, T2A
FE201	1-463-291-00	FM Front-end Unit
J501–503 J551–553	1-507-521-00	Jack, phono; 6-p; PHONO, TAPE, REC OUT
J701	1-507-658-00	Jack, HEADPHONES
MF202	1-527-403-00	Filter, mechanical
TM201, 801	1-536-446-XX	Terminal, ANTENNA, SPEAKER
	⚠ 1-508-897-00	Plug, voltage selector
	⚠ 1-533-131-00	Holder, fuse
	1-536-523-00	Terminal, ground
	⚠ 1-551-628-00	Cord, power; 2-p (E2 model)
	⚠ 1-551-896-00	Cord, power; 3-p (E1 model)
	⚠ 1-551-966-00	Adaptor, power cord (E1 model)
	♦ A-4409-260-A	Complete Circuit Board, tuner

Items marked "♦" are not stocked because they are seldom required for routine service. Some delay should be anticipated when ordering these items.

Ref. No.	*Part No.*	*Description*
	♠ 1-535-115-00	Terminal, 2p
	♠ 1-535-116-00	Terminal, 3p
	♠ 1-535-118-00	Terminal, 5p
	♠ 1-535-119-00	Terminal, 6p
	♠ 1-555-076-00	Lead Wire, w/connector
	♠ 1-555-078-11	Lead Wire, w/connector (FM)
	♠ 1-555-078-21	Lead Wire, w/connector (AM)
	♠ 1-560-283-00	Pin 8-p, connector

Items marked "♠" are not stocked because they are seldom required for routine service. Some delay should be anticipated when ordering these items.

ACCESSORIES AND PACKING MATERIALS

Part No.	*Description*
1-501-184-00	Antenna, ribbon
1-501-193-00	Antenna
3-701-630-00	Bag, plastic
3-770-984-51	Manual, instruction
3-794-576-11	Card, manual
4-864-402-00	Cushion, bottom
4-864-403-00	Cushion (L), upper
4-864-404-00	Cushion (R), upper
4-864-485-00	Carton
4-891-037-00	Bag, plastic

1/4 WATT CARBON RESISTORS Ⓐ

Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*
1.0	1-246-401-00	10	1-246-425-00	100	1-246-449-00	1.0k	1-246-473-00	10k	1-246-497-00	100k	1-246-521-00	1.0M	1-246-545-00
1.1	1-246-402-00	11	1-246-426-00	110	1-246-450-00	1.1k	1-246-474-00	11k	1-246-498-00	110k	1-246-522-00	1.1M	1-210-814-00
1.2	1-246-403-00	12	1-246-427-00	120	1-246-451-00	1.2k	1-246-475-00	12k	1-246-499-00	120k	1-246-523-00	1.2M	1-210-815-00
1.3	1-246-404-00	13	1-246-428-00	130	1-246-452-00	1.3k	1-246-576-00	13k	1-246-500-00	130k	1-246-524-00	1.3M	1-210-816-00
1.5	1-246-405-00	15	1-246-429-00	150	1-246-453-00	1.5k	1-246-577-00	15k	1-246-501-00	150k	1-246-525-00	1.5M	1-210-817-00
1.6	1-246-406-00	16	1-246-430-00	160	1-246-454-00	1.6k	1-246-578-00	16k	1-246-502-00	160k	1-246-526-00	1.6M	1-210-818-00
1.8	1-246-407-00	18	1-246-431-00	180	1-246-455-00	1.8k	1-246-579-00	18k	1-246-503-00	180k	1-246-527-00	1.8M	1-210-819-00
2.0	1-246-408-00	20	1-246-432-00	200	1-246-456-00	2.0k	1-246-580-00	20k	1-246-504-00	200k	1-246-528-00	2.0M	1-210-820-00
2.2	1-246-409-00	22	1-246-433-00	220	1-246-457-00	2.2k	1-246-581-00	22k	1-246-505-00	220k	1-246-529-00	2.2M	1-210-821-00
2.4	1-246-410-00	24	1-246-434-00	240	1-246-458-00	2.4k	1-246-582-00	24k	1-246-506-00	240k	1-246-530-00	2.4M	1-244-754-00
2.7	1-246-411-00	27	1-246-435-00	270	1-246-459-00	2.7k	1-246-583-00	27k	1-246-507-00	270k	1-246-531-00	2.7M	1-244-755-00
3.0	1-246-412-00	30	1-246-436-00	300	1-246-460-00	3.0k	1-246-584-00	30k	1-246-508-00	300k	1-246-532-00	3.0M	1-244-756-00
3.3	1-246-413-00	33	1-246-437-00	330	1-246-461-00	3.3k	1-246-585-00	33k	1-246-509-00	330k	1-246-533-00	3.3M	1-244-757-00
3.6	1-246-414-00	36	1-246-438-00	360	1-246-462-00	3.6k	1-246-586-00	36k	1-246-510-00	360k	1-246-534-00	3.6M	1-244-758-00
3.9	1-246-415-00	39	1-246-439-00	390	1-246-463-00	3.9k	1-246-587-00	39k	1-246-511-00	390k	1-246-535-00	3.9M	1-244-759-00
4.3	1-246-416-00	43	1-246-440-00	430	1-246-464-00	4.3k	1-246-488-00	43k	1-246-512-00	430k	1-246-536-00	4.3M	1-244-760-00
4.7	1-246-417-00	47	1-246-441-00	470	1-246-465-00	4.7k	1-246-489-00	47k	1-246-513-00	470k	1-246-537-00	4.7M	1-244-761-00
5.1	1-246-418-00	51	1-246-442-00	510	1-246-466-00	5.1k	1-246-490-00	51k	1-246-514-00	510k	1-246-538-00	5.1M	1-244-762-00
5.6	1-246-419-00	56	1-246-443-00	560	1-246-467-00	5.6k	1-246-491-00	56k	1-246-515-00	560k	1-246-539-00		
6.2	1-246-420-00	62	1-246-444-00	620	1-246-468-00	6.2k	1-246-492-00	62k	1-246-516-00	620k	1-246-540-00		
6.8	1-246-421-00	68	1-246-445-00	680	1-246-469-00	6.8k	1-246-493-00	68k	1-246-517-00	680k	1-246-541-00		
7.5	1-246-422-00	75	1-246-446-00	750	1-246-470-00	7.5k	1-246-494-00	75k	1-246-518-00	750k	1-246-542-00		
8.2	1-246-423-00	82	1-246-447-00	820	1-246-471-00	8.2k	1-246-495-00	82k	1-246-519-00	820k	1-246-543-00		
9.1	1-246-424-00	91	1-246-448-00	910	1-246-472-00	9.1k	1-246-496-00	91k	1-246-520-00	910k	1-246-544-00		

ELECTROLYTIC CAPACITORS

	RATING					→ : Use the high voltage rated one.
CAP. (µF)	6.3 VOLT.	10 VOLT.	16 VOLT.	25 VOLT.	35 VOLT.	50 VOLT.
	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.47					→	1-121-726-00 Ⓐ
1.0					→	1-121-391-00 Ⓐ
2.2					→	1-121-450-00 Ⓐ
3.3	→	→	→	1-121-392-00 Ⓐ	→	1-121-393-00 Ⓐ
4.7	→	→	→	1-121-395-00 Ⓐ	→	1-121-396-00 Ⓐ
10	→	→	1-121-651-00 Ⓐ	1-121-398-00 Ⓐ	→	1-121-738-00 Ⓐ
22	→	→	1-121-479-00 Ⓐ	1-121-480-00 Ⓐ	1-121-662-00 Ⓐ	1-121-152-00 Ⓐ
33	→	→	1-121-403-00 Ⓐ	1-121-404-00 Ⓐ	1-121-652-00 Ⓑ	1-121-405-00 Ⓐ
47	→	1-121-352-00 Ⓐ	1-121-409-00 Ⓐ	1-121-410-00 Ⓐ	1-121-653-00 Ⓑ	1-121-411-00 Ⓐ
100	→	1-121-414-00 Ⓐ	1-121-415-00 Ⓐ	1-121-416-00 Ⓐ	1-121-357-00 Ⓑ	1-121-417-00 Ⓑ
220	1-121-419-00 Ⓑ	1-121-420-00 Ⓑ	1-121-421-00 Ⓐ	1-121-422-00 Ⓑ	1-121-261-00 Ⓒ	1-121-423-00 Ⓑ
330	1-121-751-00 Ⓑ	1-121-805-00 Ⓑ	1-121-521-00 Ⓒ	1-121-654-00 Ⓑ	1-121-655-00 Ⓓ	1-121-656-00 Ⓒ
470	1-121-424-00 Ⓑ	1-121-425-00 Ⓒ	1-121-426-00 Ⓒ	1-121-733-00 Ⓑ	1-121-361-00 Ⓔ	1-121-810-00 Ⓓ
1000	–	1-121-736-00 Ⓒ	1-121-245-00 Ⓓ	1-121-657-00 Ⓓ	1-121-388-00 Ⓔ	1-123-061-00 Ⓕ
2200	1-121-658-00 Ⓑ	1-121-659-00 Ⓒ	1-121-660-00 Ⓓ	1-123-067-00 Ⓕ	1-121-984-00 Ⓕ	–
3300	1-121-661-00 Ⓓ	1-123-075-00 Ⓔ	1-123-071-00 Ⓕ	–	–	–

CAP. (µF)	100 VOLT.	160 VOLT.	250 VOLT.	350 VOLT.
	PART No.	PART No.	PART No.	PART No.
0.47	–	–	–	–
1.0	1-123-249-00 Ⓐ	1-123-252-00 Ⓐ	1-123-003-00 Ⓑ	1-121-168-00 Ⓑ
2.2	1-123-250-00 Ⓐ	1-123-026-00 Ⓑ	–	1-123-028-00 Ⓑ
3.3	1-121-995-00 Ⓐ	–	1-123-004-00 Ⓑ	1-123-006-00 Ⓒ
4.7	1-123-255-00 Ⓐ	1-121-246-00 Ⓑ	1-121-759-00 Ⓑ	1-123-007-00 Ⓓ
10	1-121-126-00 Ⓑ	1-121-999-00 Ⓑ	1-123-254-00 Ⓒ	1-123-008-00 Ⓓ
22	1-121-996-00 Ⓒ	1-123-253-00 Ⓒ	1-123-005-00 Ⓓ	1-123-022-00 Ⓓ
33	1-121-997-00 Ⓒ	1-121-757-00 Ⓒ	–	–
47	1-123-251-00 Ⓒ	1-121-919-00 Ⓒ	–	–
100	1-123-084-00 Ⓔ	–	–	–

CERAMIC CAPACITORS

				RATING			
CAP. (pF)	50 VOLT.	CAP. (pF)	50 VOLT.	CAP. (pF)	50 VOLT.	CAP. (µF)	50 VOLT.
	PART No.		PART No.		PART No.		PART No.
0.5	1-101-837-00	22	1-102-959-00	150	1-101-361-00	0.001	1-102-074-00
0.75	1-101-586-00	24	1-102-960-00	160	1-101-367-00	0.0012	1-102-118-00
1.0	1-102-934-00	27	1-102-961-00	180	1-102-976-00	0.0015	1-102-119-00
1.5	1-101-576-00	30	1-102-962-00	200	1-102-977-00	0.0018	1-102-120-00
2.0	1-102-935-00	33	1-102-963-00	220	1-102-978-00	0.0022	1-102-121-00
3	1-102-936-00	36	1-102-964-00	240	1-102-979-00	0.0027	1-102-122-00
4	1-102-937-00	39	1-102-965-00	270	1-102-980-00	0.0033	1-102-123-00
5	1-102-942-00	43	1-102-966-00	300	1-102-981-00	0.0039	1-102-124-00
6	1-102-943-00	47	1-101-880-00	330	1-102-820-00	0.0047	1-102-125-00
7	1-102-944-00	51	1-101-882-00	360	1-102-821-00	0.0056	1-102-126-00
8	1-102-945-00	56	1-101-884-00	390	1-102-822-00	0.0068	1-102-127-00
9	1-102-946-00	62	1-101-886-00	430	1-102-823-00	0.0082	1-102-128-00
10	1-102-947-00	68	1-101-888-00	470	1-102-824-00	0.01	1-102-129-00
11	1-102-948-00	75	1-101-890-00	510	1-101-059-00	0.022	1-101-005-00
12	1-102-949-00	82	1-102-971-00	560	1-102-115-00	0.047	1-101-006-00
13	1-102-950-00	91	1-102-972-00	680	1-102-116-00		
15	1-102-951-00	100	1-102-973-00	820	1-102-117-00		
16	1-102-952-00	110	1-102-815-00				
18	1-102-953-00	120	1-102-816-00				
20	1-102-958-00	130	1-101-081-00				

0.001µF = 1,000pF

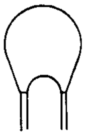
CERAMIC (SEMICONDUCTOR) CAPACITORS

			RATING	→ : Use the high voltage rated one.	
CAP. (µF)	25 VOLT.	50 VOLT.	CAP. (µF)	25 VOLT.	50 VOLT.
	PART No.	PART No.		PART No.	PART No.
0.001	→	1-161-039-00	0.018	1-161-016-00	1-161-054-00
0.0012	→	1-161-040-00	0.022	1-161-017-00	1-161-055-00
0.0015		1-161-041-00	0.027	1-161-018-00	1-161-056-00
0.0018		1-161-042-00	0.033	1-161-019-00	1-161-057-00
0.0022		1-161-043-00	0.039	1-161-010-00	1-161-058-00
0.0027	→	1-161-044-00	0.047	1-161-021-00	1-161-059-00
0.0033	→	1-161-045-00	0.056	→	1-161-060-00
0.0039	→	1-161-046-00	0.068	→	1-161-061-00
0.0047	→	1-161-047-00	0.082	1-161-024-00	1-161-062-00
0.0056	→	1-161-048-00	0.1	1-161-025-00	1-161-063-00
0.0068	→	1-161-049-00			
0.0082	1-161-012-00	1-161-050-00			
0.01	1-161-013-00	1-161-051-00			
0.012	→	1-161-052-00			
0.015	1-161-015-00	1-161-053-00			

MYLAR CAPACITORS

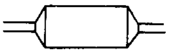
	RATING										
CAP. (μF)	50 VOLT.	100 VOLT.	200 VOLT.	CAP. (μF)	50 VOLT.	100 VOLT.	200 VOLT.	CAP. (μF)	50 VOLT.	100 VOLT.	200 VOLT.
	PART No.	PART No.	PART No.		PART No.	PART No.	PART No.		PART No.	PART No.	PART No.
0.001	1-108-227-00	1-108-365-00	1-108-409-00	0.01	1-108-239-00	1-108-377-00	1-108-421-00	0.1	1-108-251-00	1-108-389-00	1-108-433-00
0.0012	1-108-351-00	1-108-366-00	1-108-410-00	0.012	1-108-357-00	1-108-378-00	1-108-422-00	0.12	1-108-363-00	1-108-390-00	1-108-434-00
0.0015	1-108-228-00	1-108-367-00	1-108-411-00	0.015	1-108-240-00	1-108-379-00	1-108-423-00	0.15	1-108-252-00	1-108-391-00	1-108-435-00
0.0018	1-108-352-00	1-108-368-00	1-108-412-00	0.018	1-108-358-00	1-108-380-00	1-108-424-00	0.18	1-108-364-00	1-108-392-00	1-108-436-00
0.0022	1-108-230-00	1-108-369-00	1-108-413-00	0.022	1-108-242-00	1-108-381-00	1-108-425-00	0.22	1-108-254-00	1-108-393-00	1-108-437-00
0.0027	1-108-353-00	1-108-370-00	1-108-414-00	0.027	1-108-359-00	1-108-382-00	1-108-426-00	0.27	1-108-854-00	–	–
0.0033	1-108-232-00	1-108-371-00	1-108-415-00	0.033	1-108-244-00	1-108-383-00	1-108-427-00	0.33	1-108-855-00	–	–
0.0039	1-108-354-00	1-108-372-00	1-108-416-00	0.039	1-108-360-00	1-108-384-00	1-108-428-00	0.39	1-108-856-00	–	–
0.0047	1-108-234-00	1-108-373-00	1-108-417-00	0.047	1-108-246-00	1-108-385-00	1-108-429-00	0.47	1-108-857-00	–	–
0.0056	1-108-355-00	1-108-374-00	1-108-418-00	0.056	1-108-361-00	1-108-386-00	1-108-430-00				
0.0068	1-108-237-00	1-108-375-00	1-108-419-00	0.068	1-108-249-00	1-108-387-00	1-108-431-00				
0.0082	1-108-356-00	1-108-376-00	1-108-420-00	0.082	1-108-362-00	1-108-388-00	1-108-432-00				

TANTALUM CAPACITORS



	RATING			→: Use the high voltage rated one.			
CAP. (μF)	3.15 VOLT.	6.3 VOLT.	10 VOLT.	16 VOLT.	20 VOLT.	25 VOLT.	35 VOLT.
	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.01					→	→	1-131-396-00 Ⓑ
0.015						→	1-131-397-00 Ⓑ
0.022						→	1-131-398-00 Ⓑ
0.033						→	1-131-399-00 Ⓑ
0.047						→	1-131-400-00 Ⓑ
0.068					→	→	1-131-401-00 Ⓑ
0.1					→	→	1-131-402-00 Ⓑ
0.15					→	→	1-131-403-00 Ⓑ
0.22					→	→	1-131-404-00 Ⓑ
0.33					→	1-131-409-00 Ⓑ	1-131-405-00 Ⓑ
0.47	–	–	–	–	1-131-412-00 Ⓑ	→	1-131-406-00 Ⓑ
0.68	–	–	–	1-131-415-00 Ⓑ	→	1-131-410-00 Ⓑ	1-131-407-00 Ⓑ
1.0	–	–	1-131-418-00 Ⓑ	–	1-131-413-00 Ⓑ	→	1-131-408-00 Ⓑ
1.5	–	1-131-421-00 Ⓑ	–	1-131-416-00 Ⓑ	→	1-131-411-00 Ⓑ	1-131-348-00 Ⓑ
2.2	1-131-424-00 Ⓑ	–	1-131-419-00 Ⓑ	–	1-131-414-00 Ⓑ	1-131-355-00 Ⓑ	1-131-349-00 Ⓑ
3.3	–	1-131-422-00 Ⓑ	–	1-131-417-00 Ⓑ	1-131-362-00 Ⓑ	1-131-356-00 Ⓑ	1-131-350-00 Ⓑ
4.7	1-131-425-00 Ⓑ	–	1-131-420-00 Ⓑ	1-131-369-00 Ⓑ	1-131-363-00 Ⓑ	1-131-357-00 Ⓑ	1-131-351-00 Ⓒ
6.8	–	1-131-423-00 Ⓑ	1-131-376-00 Ⓑ	1-131-370-00 Ⓑ	1-131-364-00 Ⓑ	1-131-358-00 Ⓒ	1-131-352-00 Ⓒ
10	1-131-426-00 Ⓑ	1-131-383-00 Ⓑ	1-131-377-00 Ⓑ	1-131-371-00 Ⓑ	1-131-365-00 Ⓒ	1-131-359-00 Ⓒ	1-131-353-00 Ⓓ
15	1-131-390-00 Ⓑ	1-131-384-00 Ⓑ	1-131-378-00 Ⓑ	1-131-372-00 Ⓑ	1-131-366-00 Ⓒ	1-131-360-00 Ⓓ	–
22	1-131-391-00 Ⓑ	1-131-385-00 Ⓑ	1-131-379-00 Ⓒ	1-131-373-00 Ⓒ	1-131-367-00 Ⓓ		
33	1-131-392-00 Ⓑ	1-131-386-00 Ⓒ	1-131-380-00 Ⓒ	1-131-374-00 Ⓓ			
47	1-131-393-00 Ⓒ	1-131-387-00 Ⓒ	1-131-381-00 Ⓓ	–			
68	1-131-394-00 Ⓑ	1-131-388-00 Ⓒ	–	–			
100	1-131-395-00 Ⓓ	–	–	–			

TANTALUM CAPACITORS



	RATING					
CAP. (μF)	3 VOLT.	6.3 VOLT.	10 VOLT.	16 VOLT.	20 VOLT.	35 VOLT.
	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.033						1-131-273-00 Ⓔ
0.047						1-131-274-00 Ⓔ
0.068						1-131-275-00 Ⓔ
0.1						1-131-276-00 Ⓓ
0.15						1-131-277-00 Ⓓ
0.22			–	–	1-131-262-00 Ⓓ	1-131-278-00 Ⓓ
0.33			–	–	1-131-263-00 Ⓓ	1-131-279-00 Ⓓ
0.47			1-131-169-00 Ⓓ	–	1-131-264-00 Ⓓ	1-131-280-00 Ⓓ
0.68			–	1-131-258-00 Ⓓ	1-131-265-00 Ⓓ	1-131-281-00 Ⓓ
1.0			1-131-254-00 Ⓓ	–	1-131-266-00 Ⓓ	1-131-282-00 Ⓓ
1.5		1-131-250-00 Ⓓ	–	–	1-131-267-00 Ⓓ	1-131-283-00 Ⓔ
2.2		–	–	1-131-259-00 Ⓓ	1-131-268-00 Ⓓ	1-131-284-00 Ⓔ
3.3		–	1-131-255-00 Ⓓ	–	1-131-269-00 Ⓓ	–
4.7		1-131-251-00 Ⓔ	1-131-171-00 Ⓓ	–	1-131-270-00 Ⓓ	–
6.8		–	–	1-131-260-00 Ⓓ	1-131-271-00 Ⓔ	–
10	–	–	1-131-256-00 Ⓓ	–	1-131-272-00 Ⓔ	–
15	–	1-131-252-00 Ⓓ	–	1-131-261-00 Ⓔ		
22	–	–	1-131-257-00 Ⓔ	–		
33	1-131-176-00 Ⓓ	1-131-253-00 Ⓔ	1-131-173-00 Ⓒ	–		
47	1-131-288-00 Ⓕ	1-131-174-00 Ⓓ	–	–		
100	1-131-177-00 Ⓓ					

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